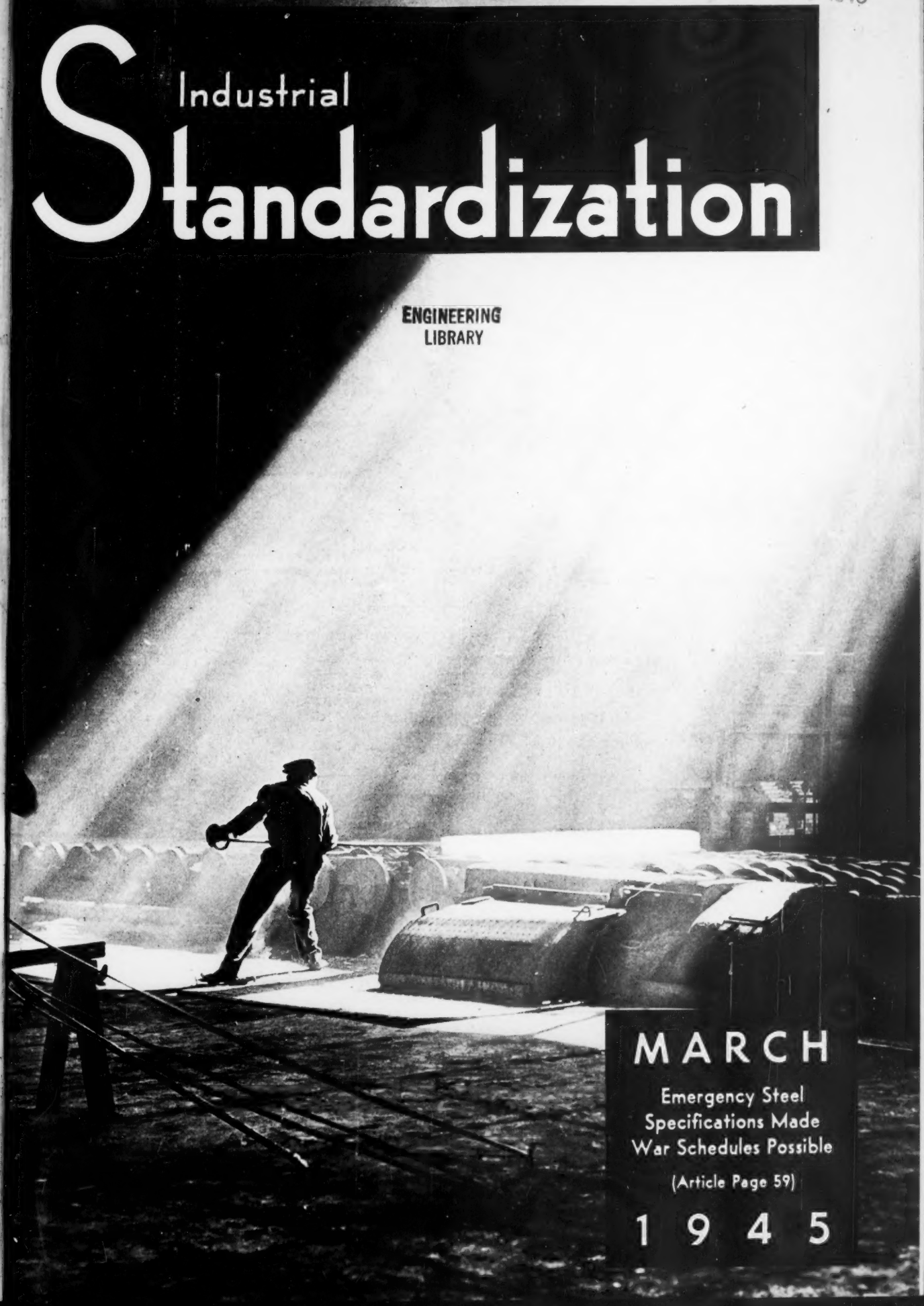
Industrial Standardization



MARCH

Emergency Steel Specifications Made War Schedules Possible

(Article Page 59)

1945

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Industrial
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RUTH E. MASON, Editor

Our Front Cover: Turning a steel slab broadside preparatory to further rolling on a 140-inch sheared plate mill. This mill produces plates for ships.—*U. S. Steel.*

This Issue

The Pictures: Frontispiece—Jones and Laughlin Steel Corp.: 63—National Bureau of Standards; 65, 66—British Information Service; 68—American Gas Association; 79—National Biscuit Company.

ASA

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Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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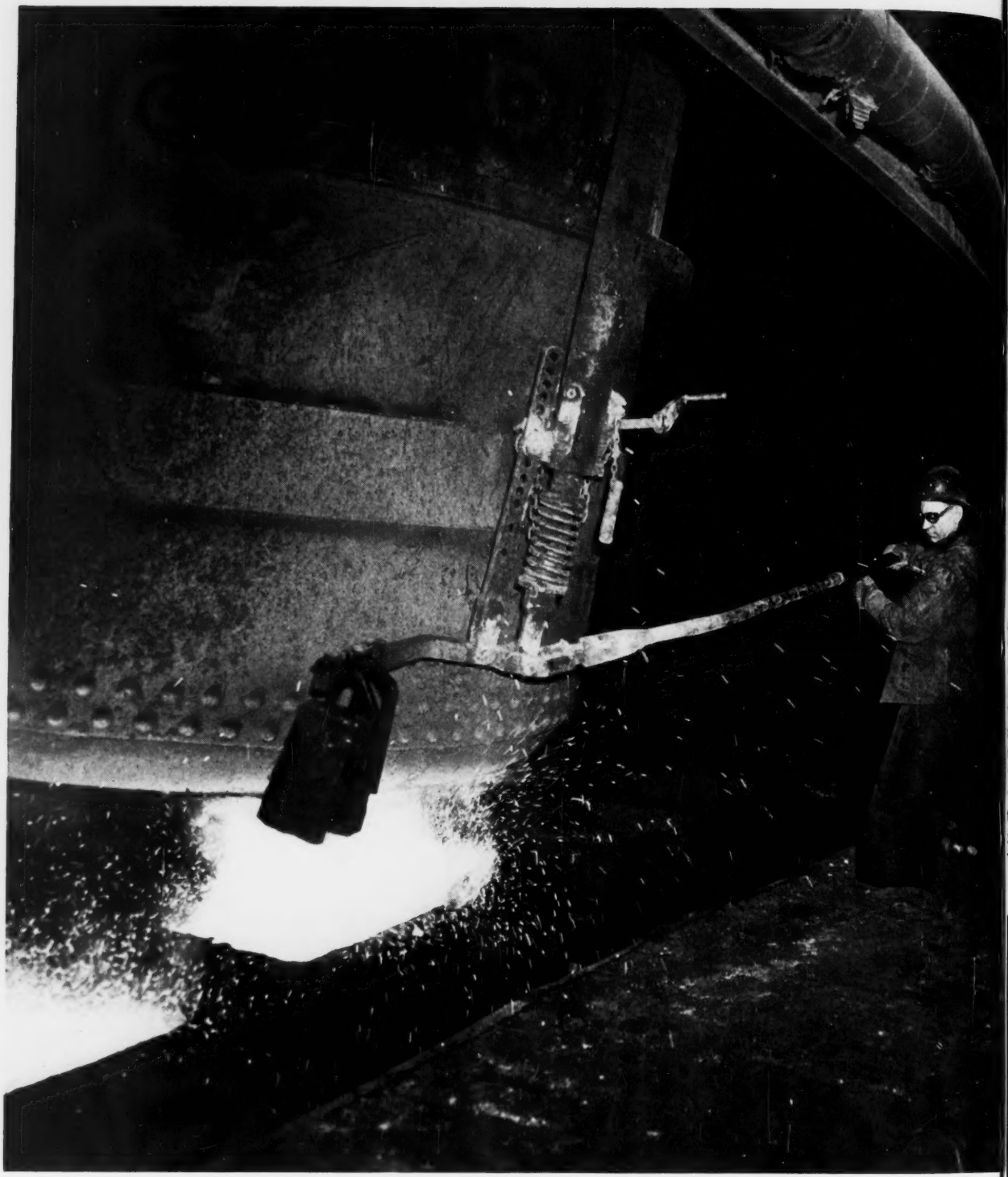

Safety clothing protects this foundryman from splashes and spills of molten metal. Note the protective leggings, apron, coat, and gloves.

Standards Now Available For Workers' Asbestos Clothing

by E. L. Wheeler[1]

Chairman, Subcommittee on Leather, Asbestos, Woolen, and Flame-Resistant Clothing, ASA War Committee on Protective Occupational (Safety) Clothing, L18

THE ever-present menace of radiant heat and molten-metal splashes will be lessened for steel mill and foundry workers wearing asbestos clothing fabricated, according to new American War Standard specifications.

Asbestos aprons, cape sleeves and bibs, leggings and coats have been carefully designed in these recently completed standards to provide adequate protection for workers and to conserve scarce materials depleted by wartime demand.

Delay May Mean Death

Asbestos garments serve a dual purpose—insulation against extreme heat during the course of the day's work; and protection against sudden splashes or spills of molten metal. When a splash occurs, the worker's garment is the only protection against painful "lost time" burns, or possibly sudden death. Whether splashed asbestos coats, leggings, or sleeves will scorch slowly enough to give wearers the short time needed to get out of danger and pull them off depends upon whether garments are so designed that they can be thrown off without delay, and is consequently of vital importance.

[1]F. H. Wheeler Manufacturing Company, Chicago.

For these reasons, the quality of the asbestos and the design of the garment were the two chief considerations of the committee in drawing up the new American War Standards.

Many problems confronted the subcommittee on asbestos clothing of the ASA War Committee on Protective Occupational Clothing when work on the specifications began.

The committee discovered, first, that few scientific tests of the wearing qualities or even of the comparative fire-resistive qualities of varying grades of asbestos had been made; and, second, that nearly all the asbestos cloth produced was needed by the Armed Forces. Consequently, the committee was faced with the problem of providing asbestos clothing for industrial workers which would give adequate protection and at the same time make the most efficient use of the asbestos available.

In order that the committee might have enough scientific data from which to form conclusions as to the quality of the asbestos to be used, the War Production Board requested the National Bureau of Standards to test the fire-resistive quality of varying grades of asbestos cloth. As a result of these tests, it was decided to specify asbestos of Underwriters' grade,

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For the first time, specifications defining the minimum quality of the material to be used in an asbestos garment for adequate protection of industrial workers, and specifying the safe design of such a garment, have been made generally available. These are the new American War Standard Specifications for Protective Occupational (Safety) Clothing for asbestos aprons, cape sleeves and bibs, leggings, and coats. They are available from the American Standards Association as follows:

Asbestos Aprons, Bib Type, L18.14-1944 Asbestos Cape Sleeves and Bibs, L18.15-1944 Asbestos Leggings (Knee and Hip Length), L18.16-1944 Asbestos Coats, L18.17-1944	In one volume	30¢

In addition to these, new standards for safety spats and mittens and for safety clothing made of flame-resistant fabric were completed recently. These can be obtained from the American Standards Association as follows:

Flame-Resistant Fabric Spats, L18.26-1945 Leather Spats, L18.27-1945 Asbestos Spats, L18.28-1945	In one volume	30¢
Leather One-Finger Mittens, L18.18-1945 Leather Mittens, L18.19-1945 Asbestos One-Finger Mittens, L18.20-1945	In one volume	30¢
Flame-Resistant Fabric Aprons (Bib Type), L18.21-1945 Flame-Resistant Fabric Leggings (Knee and Hip Length), L18.22-1945 Flame-Resistant Fabric Coats, L18.23-1945 Flame-Resistant Fabric Pants, L18.24-1945 Flame-Resistant Fabric Coveralls, L18.25-1945	In one volume	30¢

The complete list of American War Standards for safety clothing is given on the back cover of this issue.

Subcommittee Developed Asbestos Clothing Standards

The ASA War Committee on Protective Occupational (Safety) Clothing, L18, in charge of the development of American War Standards for industrial safety clothing, works under the chairmanship of H. B. Duffus, Safety Engineer, Westinghouse Electric and Manufacturing Company. The Subcommittee on Leather, Asbestos, Woolen, and Fire-Resistant Fabric Safety Clothing developed the standards for asbestos and flame-resistant fabric clothing, including those on spats. Members of this subcommittee are:

E. L. Wheeler, F. H. Wheeler Manufacturing Company, *Chairman*
Clinton B. Allen, Office of Quartermaster General
Robert Clair, Supervisor, Special Service, Loss Prevention Department, Liberty Mutual Insurance Company
R. H. Ferguson, Manager of Safety, Republic Steel Corporation
Fred Hamilton, International Representative, United Gas, Coke, and Chemical Workers of America
H. W. Heinrich, Assistant Superintendent, Engineering and Inspection Division, Travelers Insurance Company
Don Kimball, The Kimball Safety Products Company
Edward B. Landry, Safety Engineer, Shore Establishments Division, U. S. Navy Department
(R. W. Webster, Bureau of Ships, U. S. Navy Department, *Alternate*)
Major W. H. Martell, A. C., Office of Air Provost Marshal
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Merrill D. Knight, Jr., War Production Board
Jack E. Cole, Cork, Asbestos, and Fibrous Glass Division, Packing and Gaskets Section, War Production Board

Stewart J. Owen, Jr., is chairman of the subcommittee that prepared the new American War Standards on leather and asbestos mittens. An article by Mr. Owen about the work of his subcommittee was published in INDUSTRIAL STANDARDIZATION, November, 1944, page 221.

which requires 80 to 85 percent asbestos by weight. This grade appeared to the majority of the committee members to provide adequate protection and has the additional advantage of availability.

Protect Against Heat and Metal Splash

Clothing for which new American War Standards have been developed includes asbestos aprons, cape sleeves and bibs, leggings, and coats. All are designed to give protection from sustained, direct, or reflected heat; hot metal splash; spurts of flame; and sparks. It is expected that the new standards will conserve manpower by protecting workers from injury and preventing lost-time accidents. By providing specifications for the most effective use of the asbestos, it is assumed also that the standards will effect substantial savings in this critical war material.

Only plain and split-leg aprons have been included in the standard for aprons, since, in the opinion of the committee, these will service industry adequately. In addition to the minimum requirements for the material—weave, yarn ply, thread count, grade of asbestos, weight of cloth, and breaking strength—methods of test for the asbestos content, water of composition, weight of the asbestos cloth, and breaking strength of the cloth are included. When leather is used in reinforcing the asbestos garments, tests are specified for grease content, chromic oxide, acidity, heat resistance and shrinkage, and thickness of the leather. A corrosion test for hardware, such as fasteners, is included.

Specifications for cape sleeves to protect arms, shoulders, back and neck, and upper chest are outlined in the second standard. These include plain cape sleeves, cape sleeves to be used with bibs, and bibs to be worn with cape sleeves. Different sizes for men and women are specified. Sleeves are designed to reduce the bulkiness of the asbestos at the fold of the arm. The shape of the garment is specified, as well as seams, stitching and edges, rivets, and hardware.

The standard for knee and hip-length leggings in men's and women's sizes gives specifications for wrap-around and spring types in both knee and hip-length leggings, and in the pull-on type for hip-length leggings. The method of fastening is specified to insure rapid removal.

One type of asbestos coat in hip, knee, and ankle lengths, 28, 44, and 50 inches is provided for both men and women. Because asbestos, unlike leather, comes in regular widths, not more than three pieces of asbestos may be used in the coat, exclusive of the sleeves and collar, and not more than two of these pieces may be used for the entire front. Thus the back of the asbestos coat must be made in one piece, whereas in the case of leather coats more than one piece may be used in the back only, to permit maximum use of the material.

Other Standards in Series

The standards are part of a series for protective occupational (safety) clothing now being developed by ASA War Committee L18, organized by the American Standards Association in response to a request from the War Production Board. In its request, the Board stated that wartime shortages of materials, together with greatly increased demands for asbestos

garments, made it desirable to provide specifications which would facilitate manufacture, extend the available supply of the raw materials, and yet insure adequate protection to wearers. The committee has completed 27 standards, five of which cover asbestos gloves and mittens in addition to the four standards recently completed covering asbestos aprons, cape sleeves and bibs, leggings, and coats. The remaining standards give specifications for leather and flame-resistant fabric-protective garments. The most recently completed of these are five standards for bib-type aprons, knee and hip-length leggings, coats, pants, and coveralls of flame-resistant fabric (cotton duck impregnated with chemicals). They were prepared by the Subcommittee on Asbestos, Leather, Woolen, and Flame-Resistant Clothing of ASA War Committee L18.

ASA Starts War Project On Drafting Room Practice

AT THE request of the War Production Board the American Standards Association has approved a new war project for developing a group of American War Standards to coordinate the drawing and drafting room practice of the Army, Navy, and industry. This work also has peacetime significance, because of the multitude of blueprints, plans, and drawings used in the design and manufacture of even the simplest mechanical device.

ASA has long had a regular committee on Drawing and Drafting Room Practice working under the joint technical leadership of the American Society of Mechanical Engineers and the Society for the Promotion of Engineering Education. Standards developed by this committee have laid down the simple basic elements of the subject. This new work requested by the WPB proposes to carry the subject further into the complicated realm of modern industrial production.

The work will be financed by the War Production Board through an already existing Government contract under which the ASA has, since July 1942, completed 88 standards of vital and direct concern to the war effort and has under development some 68 more. As an indication of the urgency of this job of coordinating the language and practice of drafting rooms, the Navy Department in a recent letter to the chairman of the War Production Board requested that finances be provided to insure "this project going forward with ample staff and facilities to permit the rapid completion of the work."

What the Work May Cover

It is proposed that the scope of the work cover the fields of civil, mechanical, electrical, aeronautical, and marine engineering. For all of these fields, the following subjects are to be included:

(*a*) Size of drawings
(*b*) Dimensional indications
(*c*) Methods of specifying threads
(*d*) Symbols, including finishes
(*e*) Lettering
(*f*) Format of drawings
(*g*) Methods of specifying materials
(*h*) Methods of projection
(*i*) Methods of numbering drawings

Special emphasis has been laid upon completing the following five at an early date: abbreviations; methods of indicating and specifying threads; methods of lettering; drawing forms and sizes; graphical, diagrammatic, and schematic symbols. Other items, such as a system of numbering parts, type designations, fastening devices, allowances and tolerance, and similar problems, can then be taken up as time permits.

The economies that should result from this work are hard to estimate, but both Army and Navy spokesmen feel that they will be considerable. The present existing diversity of drafting practices between the various branches of the Armed Forces and industry, together with its attendant waste and confusion, has long been recognized by the Services. Within their own organizations, the Services have set up committees to coordinate the practices in the various branches of the Services.

To Coordinate Practices of Industry and Services

The part of the ASA in this program will be in coordinating industry practices with those of the Services, making it possible for one standard to serve for all branches of the Services and for industry. The representatives of several companies in diverse fields, each of which has standardized its own engineering practices, agree that they could all use each others' general practices if they could be assured that their chief customers, the Armed Forces, had similar requirements and methods of contract interpretation.

At present, a prime contractor having contracts with several government agencies has to spend considerable effort on the one minor item of seeing to it that each of his sub-contractors and each division of his own company understands precisely what drafting practices are to be used on each job. While this represents only an exceedingly small part of the waste of manpower resulting from the diversity of drafting practices, one large company requires a dozen men for this single item.

Expect Peacetime Benefits

Emphasizing the lasting significance of this project, the ASA Committee on Program of Work unanimously recommended its initiation stating that, "Army and Navy experience has shown the need for standardization of practice and the possibilities of large economies resulting from it." The committee also believes that this war work will be of widespread value to industry in the revival of civilian production.

ILO Studies Safety Code For Use in Rebuilt Factories

Recommendations to be Based on American Standards

THE Accident Prevention Committee of the International Labour Office, meeting at London in January, made a detailed study of a proposed Factory Safety Code which is being prepared for use in rebuilding the factories destroyed during the war. The code will be issued by the International Labour Office as a recommendation to industry generally throughout the world, but work on it is being completed as rapidly as possible so that the recommendations will be available for immediate use when the work of rebuilding is started.

The proposed code is of special interest to the members of the American Standards Association because a large part of its content is based on American Safety Standards. Among the standards used are those governing building exits, railings and toe boards, elevators, lighting, power transmission equipment, woodworking machinery, power presses, and other standards which apply generally to all industries.

Swen Kjaer Employed as Consultant

The development of such a code was first proposed at a meeting of the North and South American members of the ILO at Havana, Cuba, following the outbreak of the war in Europe. The recommendation was approved by the Executive Board of the ILO soon after, and Swen Kjaer, formerly on the staff of the Bureau of Labor Statistics, U.S. Department of Labor, and active in the safety work of the American Standards Association, was employed as consultant to prepare the original draft.

The first draft of the proposed code was considered by the American and Canadian members at a meeting in New York in 1942 and recommendations were made as to the outline of the code and the subject matter which should be considered.

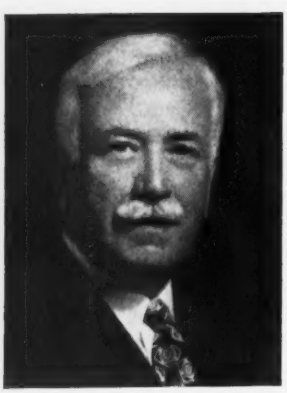
To Meet Again in Canada

The London meeting considered the revised draft in great detail, but found it impossible to review the complete code in the two weeks during which the committee was in session. Another meeting of the committee has been proposed for next June, probably in Canada.

Cyril Ainsworth, assistant secretary of the American Standards Association, and one of the United States members of the ILO Accident Prevention Committee, attended the meeting in London. R. P. Blake, Division of Labor Standards, U.S. Department of Labor, another member of the committee, also attended, as did Mr. Kjaer, consultant.

While in London, Mr. Ainsworth also conferred with the staff of the British Standards Institution on technical questions of mutual interest. The conferences particularly included questions concerning further work on screw threads resulting from the conferences at London in August and September 1944, when the United States-Canadian Screw Thread Mission conferred with British experts on screw thread standardization.

E. A. Pratt Heads ASA Inter-American Department



Edmund A. Pratt has joined the staff of the American Standards Association to assume the direction of the Inter-American Department. Mr. Pratt is a civil engineer of exceptionally broad experience in other countries, including the countries of Europe, Asia, and Africa, as well as those of the Western Hemisphere. He has also had many years of experience in sales promotional work in other countries, as manager of Overseas Sales for the Barber Asphalt Corporation and managing director of one of its English subsidiaries. Recently, during the war, Mr. Pratt has been project manager for Pan American Airways, Inc., and has been in charge of the construction of a group of military air ports in Brazil.

The Inter-American Department of the American Standards Association, which Mr. Pratt now heads, was set up about two years ago to implement a program of inter-American cooperation in standardization. Since its organization, the Department has succeeded in establishing close collaboration with the national standardizing bodies of Brazil, Mexico, Argentina, and Uruguay, and with interested groups in other countries in which the formation of standardizing bodies is being considered. The present program of the Department is directed toward intensifying this work and expanding it to provide American Standards and information about standards to the Latin American countries in their own languages. Even closer personal contact and cooperation than has been possible in the past is planned for the future.

New Tests Measure Quality of Sound in Motion Pictures

by C. R. Keith[1]

Chairman, Subgroup on Methods of Test for Signal-to-Noise Ratio and Distortion of 16-Mm Sound Film, ASA War Committee on Photography and Cinematography, Z52

ONE of the important problems of sound engineers is to devise suitable methods for measuring the quality of the sound reproduced from records in order that the final result may be as nearly like the original sound as possible. A departure from ideal reproduction is termed distortion and may take various forms such as wave-form distortion, improper frequency response, flutter, noise, and other less commonly encountered forms of distortion. The measurement of each particular type of distortion requires a special test so that it can be dealt with separately.

Because of the problems raised through the need for such tests, the Armed Forces have requested that suitable standards for the quality of sound be set up to assist them in obtaining satisfactory 16-mm prints from the training films now used so extensively in all branches of the Services. Consequently, the ASA War Committee on Photography and Cinematography, Z52, in cooperation with the Society of Motion Picture Engineers, has been endeavoring to set up such standards during the past year.

Methods of Measurement Are First Step

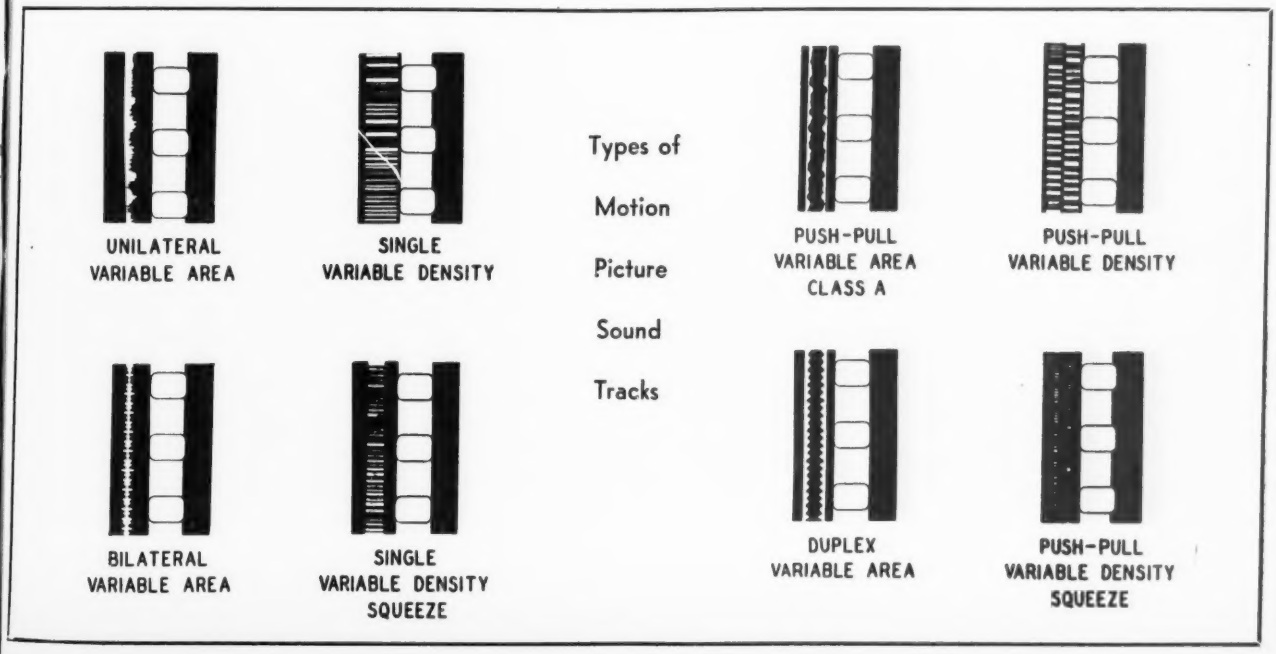
The first step toward providing the required tests has now been taken and methods of measurement for two forms of distortion have been agreed upon and issued as American War Standards. These are the American War Standard Method of Making Intermodulation Tests on Variable-Density 16-Mm Sound Motion Picture Prints, Z52.15-1944, and the American War Standard Method of Making Cross-Modulation Tests on Variable-Area 16-Mm Sound Motion Picture Prints, Z52.39-1944. These are designed to measure the particular kinds of wave-form distortion most likely to occur in 16-mm variable-area and variable-density sound film records.

In addition, the American War Standard Method of Determining Signal-to-Noise Ratio of 16-Mm Sound Motion Picture Prints, Z52.38-1945, has also been adopted. This method is important in control of the quality of print production since improper handling during film processing will be reflected in an increase of the background noise in the sound records.

In the case of each of these forms of distortion it would have been desirable to have specified limits of allowable distortion as a basis for the acceptance or rejection of individual sound prints.

At the present time, however, experience in the use of such tests on 16-mm prints has not been sufficient to warrant setting up definite limits. The best that could be done under the circumstances, therefore, was to agree upon the method of measurement so that the

[1] Western Electric Company, New York.



data obtained from various sources could be correlated and suitable limits specified at some later date.

In the meantime, sound-recording engineers can determine by means of intermodulation and cross-modulation tests the print density which produces a minimum of distortion for a particular set of recording and processing conditions. It may be noted that in the fifteen years and more during which sound has been recorded in connection with 35-mm motion pictures, the motion picture industry has not been able to agree upon any such limits nor have even the methods of measurement been standardized. The present American War Standards in the 16-mm field are, therefore, a step in the right direction even though they do not fill the need as completely as the Armed Forces would like.

The intermodulation method described in American War Standard Z52.15-1944 is used for measuring waveform distortion on variable-density sound records. This type of distortion is due principally to incorrect photographic processing, including both exposure and development of negative and positive. A suitable adjustment of one of these variables, the positive exposure or density, is usually sufficient to reduce this form of distortion to a satisfactory amount.

Intermodulation Method

In general, the intermodulation method of measuring distortion employs a complex wave consisting of a low frequency and a high frequency at one-fourth the amplitude of the low frequency, the combination being recorded on the sound negative and processed in a specified manner. Any wave-form distortion in the over-all process causes a change in high-frequency amplitude in some portion of the low-frequency cycle. The ratio of the average variation in amplitude of the higher frequency in the reproduced wave to its original amplitude is called the intermodulation. Intermodulation test results are not directly proportional to harmonic measurements but in most cases an intermodulation figure of 10 percent corresponds to a harmonic reading of about 2½ percent.

Cross-Modulation Test

The cross-modulation test is mainly for the purpose of measuring a form of distortion in variable-area sound records that is caused by spreading of the image in either positive or negative. In order to obtain proper wave form, output level, and noise reduction, it is necessary for variable-area prints to have high density contrast between the clear and exposed portions of the track. At satisfactorily high track densities, an appreciable amount of image spread occurs, producing partial rectification of high frequencies. To compensate for this, an equal and opposite amount of image spread is introduced into the negative. Therefore, to establish the correct negative and print density combination, amplitude-modulated high frequencies are recorded and printed over a suitable density range. By measuring the rectified component from the prints, the correct density combinations are indicated.

These three new American War Standards are intended to supplement the American War Standard Specification for 16-Mm Motion Picture Release Prints, Z52.3-1944.

One more standard in the series for control of the quality of 16-mm motion picture release prints remains to be completed. This is the proposed American War Standard Method of Determining Printing Loss in 16-Mm Motion Picture Release Prints, Z52.40. A draft prepared by Dr. Otto Sandvik of the Eastman Kodak Company is now under consideration by Subcommittee B on 16-Mm Sound.

Subgroup Members Who Prepared New Tests for Quality of Sound

A subgroup of Subcommittee B on 16-Mm Sound of the ASA War Committee on Photography and Cinematography, Z52, was responsible for the preparation of the three new test methods for quality of sound in 16-mm motion picture prints. The committee members are:

C. R. Keith, Electrical Research Products Division, Western Electric Company, *Chairman*
E. A. Bertram, DeLuxe Laboratories, Inc
Lt G. A. Chambers, USNR, Photographic Science Laboratory, Naval Air Station
R. O. Drew, RCA Victor Division, Radio Corporation of America
Albert Duryea, Pathe Laboratories, Inc
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J. H. Spray, Ace Film Laboratories, Inc
H. E. White, Eastman Kodak Company

The three new American War Standards are now available from the American Standards Association, as follows:

Method of Making Intermodulation Tests on variable Density 16-Mm Sound Motion Picture Prints, Z52.15-1944	10¢
Method of Making Cross-Modulation Tests on Variable Area 16-Mm Sound Motion Picture Prints, Z52.39-1944	10¢
Method of Determining Signal-to-Noise Ratio of 16-Mm Sound Motion Picture Prints, Z52.38-1945	10¢

AIEE Names J. J. Pilliod As Standards Council Alternate

J. J. Pilliod of the American Telephone and Telegraph Company has been appointed alternate representative of the American Institute of Electrical Engineers on the Standards Council of the American Standards Association to succeed H. L. Huber. Mr. Huber, who had represented the AIEE on the Standards Council for 15 years, died January 4, 1945.

Mr. Pilliod has been appointed, also, as an AIEE representative on the ASA Electrical Standards Committee to succeed Mr. Huber for the unexpired term ending July 31, 1945.

National Emergency Steel Specifications Made Wartime Schedules Possible

by Edwin Joyce

Administrator, National Emergency Steel Specifications

The National Emergency Steel Specifications, made effective by the War Production Board through Limitation Order L-211, limited steel production to a minimum number of compositions, and limited the number of sizes and shapes of mill products. This was done in order to speed the production of steel and make the most effective use of productive capacity. The War Production Board also cooperated in promoting the use of the National Emergency Steels, in which the actual compositions of the steels were changed to permit the use of substitute materials. These programs together made it possible to keep steel production to the high levels required during the war. A description of the work on the NE Steels was published on page 231, INDUSTRIAL STANDARDIZATION, November, 1944. This article by Mr. Joyce now describes the work done by the War Production Board on the National Emergency Steel Specifications.

DURING the summer of 1941, it became apparent that this country's steel-producing facilities would be taxed beyond their capacity to supply the needs of our Armed Services, our Allies, and our civilian requirements, which then made up our defense program. It was foreseen that the total production of the industry could be materially increased within existing facilities if production were concentrated on a minimum number of compositions, and sizes and shapes of mill products.

At that time we were experiencing our first shortages of the alloying elements used in steels, particularly nickel, chromium, and tungsten, and it was apparent that conservation of these stocks would be required and that much benefit would result if specification limits on the contents of these elements were set at the minimum amounts necessary to insure satisfactory performance in service.

A project to accomplish these objectives was initiated in September, 1941, through the establishment of the National Emergency Steel Specifications in the Office of Production Management, which later was merged with other war agencies to form the War Production Board. Three national societies—the American Iron and Steel Institute, American Society for Testing Materials, and Society of Automotive Engineers—were requested to sponsor the NESS project, in cooperation with the War and Navy Departments, and under the general supervision of the OPM. An administrative committee, composed of representatives of the above five groups, was formed to direct the project, with the assistance of advisors from other interested organizations. C. L. Warwick, then consultant to OPM and later chief of the Specifications Branch, Conservation Division, was named Administrator, and chairman of the Administrative Committee.

The details of organization of the work were soon completed and objectives and procedures clearly defined. The Administrative Committee was made responsible for planning and guiding the entire project, designating the appropriate committees, assigning portions of the work to these committees, and reporting their recommendations to the Steel Division of the War Production Board.

Allied Governments Represented

Since many technical problems were involved, arrangements were made to form technical advisory committees composed of representatives of government agencies, of steel producers, and of steel consumers and general interests. The Allied Governments were large war-time consumers of steels produced in this country and were represented on the TACs (technical advisory committees) by liaison consultants in order to provide an interchange of information and so that the procurement practices of those countries could be coordinated with American production practices. The directive of the technical committees set forth their objectives, which were the selection of the minimum number of compositions, grades, sizes, shapes, etc, that would fulfill the war needs, both direct and indirect. At the outset it was decided that a new series of specifications would not be issued but that selections would be made from those promulgated by the Government Departments and from principal specifications having national distribution. Thus private specifications and those having limited use were excluded from consideration. Each specification selected was to be examined to determine what modifications were necessary to secure maximum production consistent with adequate quality. Where no specification existed, the committees were to develop specifications for promulgation by the activity concerned.

The entire field of steel mill products was classified by products and where the need existed, or developed as the war progressed, a technical advisory committee was promptly appointed to study the production prob-

lems involved and to make such recommendations as the actual conditions warranted.

On the various committees which assisted in this work there were 131 representatives of producers, 211 representatives of consumers, and 31 representatives of Government agencies. Each was appointed by the Administrator, and it should be recorded that the spirit of cooperation was so pronounced that no appointment was declined and that participation by the members in the committee activities was exceptional.

Steel Requirements Pyramided

After the attack on Pearl Harbor, all war activities became greatly intensified, and steel requirements pyramided monthly, so that added emphasis was placed on the work assigned to the NESS, particularly that dealing with conservation of critical ferro-alloys, since the rate of expenditure of such supplies was greatly increased by the phenomenal increase in the rate of production of alloy steels.

The first technical advisory committees formed were those on steel plates and aeronautical steels. The need for committees on other products followed rapidly and these were expeditiously formed. The rapidly changing pattern on constructional alloy steels, caused by succeeding shortages of critical alloying elements, to a large extent prevented any extensive standardization of specifications on these products. When the NE Steels were developed, as described in the November 1944 issue of INDUSTRIAL STANDARDIZATION,[2] the NESS technical committees made every possible effort to promote their use. This was done so far as the NESS activities were concerned on a strictly cooperative basis, as the issuance of mandatory requirements was impracticable in the face of the need to modify compositions to meet the variable conditions. The technical committee members were largely responsible for the selection and application of materials in their commercial organizations, and therefore took a keen and very cooperative interest in the NE steel developments.

Voluntary Action on Aeronautical Steels

The findings of the technical committees, after approval by the Administrative Committee, were made effective either by voluntary cooperative action or by the issuance by the War Production Board of mandatory limitation orders in the form of L-211 Schedules. Of those in the first category, a number are of particular interest. The first of these in operation was developed by the TAC on Aeronautical Steels and comprised a selection of approximately 65 types of carbon, alloy, and corrosion-resistant steels to supply the need for steel bars, forgings, wire, sheet, and tubing for the aircraft industry. This represented a drastic reduction from the number of grades in previous use. Among those selected were some triple-alloy types especially developed to conserve critical alloys and to make use of composite steel scrap. Due to the combined efforts of the aircraft manufacturers, steel producers, and the various governmental agencies, these triple-alloy steels now account for practically all of the production of aircraft tubing and a very large proportion of the production of bars and forgings. This simplification of grades and the conversion to the triple-alloy types entailed extensive test programs by the aircraft industry to prove the serviceableness of these alternate grades, all of which had to be done under the stress of the tremendous expansion in the production of military aircraft.

The TAC on Carbon and Alloy Steel Bars, through its subcommittees in the automotive and tractor fields, was instrumental in promoting the use of standard steels of lower alloy content and of the NE grades. The subcommittee on bearing steels developed specifications for standard compositions of chromium steel for ball and roller bearings to relieve a critical situation resulting from the use of many grade variations for the same end use.

The TAC on Heavy Forgings developed standard specifications for forgings for turbine and turbine-generator parts to relieve a critical situation which threatened the production of such equipment for the extensive Victory model shipbuilding program. This development was particularly noteworthy because previous attempts to develop standards had been unsuccessful.

Simplification of Rail Sections

The NESS initiated a program of simplification of rail sections, which was carried to completion by the cooperative action of the producers of rails, the railroads, and the Steel Division of the War Production Board. This work culminated in the selection, from the 61 sections in use, of 9 sections which were designated as standard sections and about 17 sections which were provided for the transition period, under controls as to minimum tonnages and frequency of rollings.

This simplification of sections has been very beneficial to the production of rails and has made possible a similar reduction in types of track accessories, such as joint bars and tie plates.

The NESS accomplishments through cooperative action have been largely unpublicized and are not as well known as are those which were attained by the issuance of mandatory orders in the L-211 series. A list of these orders, together with dates of issuance, and date of last amendment, is given in the table on page 61.

In formulating the L-211 Schedules, limitations were placed on production rather than on end uses because of the greater ease of administration. Each schedule provides for appeals, but it is remarkable that so few were found necessary. Those acquainted with the developments largely modified their practices to suit, so that little disturbance to production or to application of the products accompanied the actual issuance of the Schedules. For domestic use, considerably less than 1 percent of production has been covered by appeals. There has been considerable production of some products for use by Allied countries and, on a few of these, quite a number of appeals have been allowed because of the need to meet service conditions or applications dissimilar to American practices. This applies particularly to dimensions of steel wheels, and axles, for which American standards are not applicable.

Restrictions on Specifications and Sizes

Some of the above schedules cover restrictions on specifications only, some cover restrictions on size only, but most cover restrictions on both specifications and

[2] "The NE Steels and Industrial Standards," by Charles M. Parker, INDUSTRIAL STANDARDIZATION, November, 1944, page 231.

National Emergency Specifications for Steel Products

Schedules to Limitation Order L-211

Schedule No.	*Title*	*Original Date of Issue*	*Date of Last Amendment*
1	Concrete Reinforcement Steel	23 October 1942	
2	Steel Wheels and Tires	23 October 1942	
*3	Barbed Wire, Wire Fence, Poultry Netting and Poultry Flooring	12 December 1942	Revoked—16 March 1944
4	Structural Steel Shapes	25 February 1943	2 September 1943
5	Steel Axles and Forgings, (Railroad and Transit Service)	25 February 1943	19 August 1943
6	Mechanical Tubing	25 February 1943	
7	Rails and Track Accessories	25 February 1943	25 July 1944
8	Carbon Steel Plates	23 March 1943	
9	Oil Country Tubular Goods	30 April 1943	21 January 1944
10	Water Well Tubular Products	30 April 1943	
11	Steel Pressure Pipe	30 August 1943	11 March 1944
12	Steel Pressure Tubes	30 August 1943	13 December 1943
13	Steel Pipe	30 August 1943	27 November 1943
*14	Steel Fence Posts	6 July 1943	27 October 1944
15	Hot-Rolled Carbon Steel Bars	15 September 1943	14 August 1944
*16	Steel Wire Rope	28 October 1944	

* These schedules not developed through NESS project.

sizes. Fortunately for most of the products covered by the schedules, well established specifications were available which needed only moderate modifications to adapt them to wartime conditions. Each specification selected for listing, however, was given a critical examination before acceptance.

Intensive Studies Needed

The establishment of size standards on most of the products required intensive studies of the probable wartime needs, based on production records for preceding years.

In the work of the various TACs, specification requirements were examined in detail and many requests were made of the promulgating agency for changes that were needed to suit the specification to wartime production. Many of such changes were made as permanent revisions; some were established as emergency provisions effective for the war emergency. In all instances the changes requested were put through expeditiously and with a cooperative spirit which contributed greatly to the success achieved in the NESS work.

Those specifications issued by the Military Services covering the products with which the NESS is concerned were to a great extent not affected by the impact of war. As stated previously, the NESS scope did not include steels of combat or ballistic quality. Neither did the NESS activity include the selection of steels for particular applications, except to the extent of limiting the number of grades which might be produced.

It is rather difficult to evaluate the effect of standardization of specifications in terms of tonnage increase in production or quantity of alloying elements conserved. The benefits are measurable rather in increased efficiency of utilization of facilities and manpower, in decreased inventories, in more prompt deliveries, and through other improvements of largely intangible factors.

The benefits derived from standardization of sizes of products is more easily understood and evaluated. The benefits to the steel mills include less frequent roll changes and therefore longer runs and more productive operation. The benefits to consumers are less inventories and better deliveries. There are, of course, some disadvantages, particularly due to the need of adjusting applications to suit the restricted number of sizes. Once these adjustments are made, the full benefits are largely realized.

Some Typical Advantages

A few examples of the advantages of the L-211 Schedules are typical. Schedule 2 restricted the number of sizes of wrought-steel car wheels to approximately 10 percent of those previously ordered. The dimensions of those permitted sizes were established in such manner as to cover substantially all replacement requirements, so that appeals from domestic applications have been quite limited. It was necessary, however, to instruct the railroad personnel responsible for wheel replacements in the proper selection of the new

standards, and this precaution averted any serious difficulties. This project has been of inestimable value because wheel-producing facilities have been taxed to the utmost to meet the increased needs of the railroads under the higher train speeds and increased car loadings which have prevailed throughout the war period.

Schedule 15 sets forth permissible sizes of hot-rolled carbon-steel bars, and is based on a study of bar sizes produced by the various mills in 1941. This study, which took about one year, revealed that 60 percent of the sizes produced accounted for 95 percent of bar production. The other 40 percent was distributed among odd-sized bars on orders of small tonnage and infrequent rollings. The effect of the issuance of Schedule 15 was to increase mill production of hot-rolled carbon steel bars approximately 15 percent, and to furnish to designers a list of standard sizes not previously available. It also standardized the method of ordering such bars, since previous practices of specifying tolerances as all plus or all minus is prohibited. The effect of this is to reduce the number of roll sizes which the mills must provide since the shifting of hot-rolled bar tolerances away from an equal plus and minus basis in reality requires special roll grooves.

Show Industry's Resourcefulness

One other Schedule deserves mention because it exemplifies the resourcefulness of American industry. As pipe and tubing producing facilities became overloaded, it became necessary to issue Schedules 9 to 13. Schedule 9 covers oil-country tubular goods which includes oil well casing and tubing, and provides that the use of Bessemer or open-hearth steel in the manufacture of these products shall be optional with the manufacturer. The effect of this provision was to provide an outlet for about 25 thousand tons per month of Bessemer steel seamless casing and tubing thereby relieving the over-loaded open-hearth departments. This Bessemer pipe which is an innovation in oil well practices is reported to have caused no difficulties in service.

An important activity of the NESS Administrative Committee, not described above, deals with an effort to correlate the requirements of the various specifications covering the same grade or substantially the same grade or quality of product. Products may be covered by specifications having different requirements largely because of the difference in origin of the specification. Even though the products may be taken from the same melt of steel, if the test and inspection requirements vary production and manpower losses may be sustained through bottlenecks in the inspection department. Mill certification becomes more difficult and the interchange of products from one specification to another is prevented or is hindered by the necessity of performing additional inspection tests.

Correlation Program Suspended

As a contribution to the war effort the committee undertook an extensive program of correlation of specification requirements, which, however, was suspended in December, 1944. The correlation work on steel casting requirements had progressed further than that on other products, however, and will be continued. A series of 9 carbon, 16 alloy, and 5 corrosion-resistant grades of steel casting have been proposed as a consolidation of the many more grades now produced to specifications of the various consuming industries. These proposed specifications are being given earnest consideration by specification authorities and the cooperative spirit with which this work is being undertaken would indicate that much benefit to all concerned may be accomplished.

May Become Simplified Practice Recommendation

Steps have already been taken to adapt the size controls of the L-211 Schedules for promulgation as voluntary Simplified Practice Recommendations of the National Bureau of Standards, so that when the L-211 orders are revoked by the War Production Board the voluntary controls may become effective.

In closing, tribute should be paid to the cooperative spirit in which this work was conceived and carried through. Those men and companies who participated gave freely of their time and effort, even though many were already over-loaded with other wartime responsibilities. Those agencies whose specifications were affected took expeditious action to issue amendments or to issue new specifications when requested, in the interest of victory. There existed, too, an underlying recognition of the value of standardization, for it was recognized that much of the work done under stress of war needs was applicable as well to peacetime. For this reason it seems that such parts of the project as are applicable will be salvaged in some manner for future use.

NOTE:—Because of the dissolution of the WPB Conservation Division the NESS was transferred in November, 1944 to the Metallurgical Branch of the Steel Division.

Standards Recommended to Remove Conflicts in State Motor Laws

The extent to which the movement of commodities by motor truck is still restricted by conflicting state laws on motor vehicle sizes and weights is shown by a series of maps in the 1944 edition of *Motor Truck Facts*, published biannually by the Automobile Manufacturers Association. The booklet summarizes recommendations for basic standards for trucks and highways which the National Interregional Highway Committee has recommended for adoption by the Federal Government as a means of ending this interstate conflict.

The problem of conflicting requirements continues to be given serious consideration by the groups concerned. Recently, representatives of commercial motor vehicle organizations from 11 northeastern states approved the following minimum specifications for motor vehicle sizes and weights in those states:

Width, 102 inches
Length, 40 feet for 2 axles, 50 feet for semi-trailers and not over 65 feet for any other combination
No gross weight, but an axle limitation with gross weight determined by a formula
Axle weight, 22,400 pounds

In a statement of principles, the group recommended that motor vehicles should be permitted to use the highway up to the maximum load for which the roads are constructed and recognized "the present need for a differential in allowable loads on primary and secondary highways."

Four New Standards Near Completion In ASA Building Code Program

AT ITS annual meeting February 9, the Building Code Correlating Committee heard reports from sectional committees under its jurisdiction to the effect that at least four new standards may be approved during 1945. Three of the standards nearing completion will provide building code requirements for light and ventilation, design loads in buildings, and for signs and outdoor display structures. In addition, a proposed standard on Building Code Requirements for Steel Joist Construction has already been completed by the sectional committee.

The Eexcutive Committee was authorized to study two proposals. One, from the Pacific Coast Building Officials Conference, was concerned with a basis for cooperation between the ASA and the Conference in building code matters, and the other involved the question of commencing development of a basic (or short) building code.

The Building Code Correlating Committee re-elected its officers for the coming year, as follows:

George N. Thompson, chief of the Building Code Section, National Bureau of Standards, *Chairman*
Walker S. Lee, president, Building Officials Conference of America, *Vice-Chairman*

Members of the Executive Committee for the year were also re-elected, as follows:

Clinton T. Bissell, National Board of Fire Underwriters
J. Andre Fouilhoux, American Institute of Architects
R. P. Miller, American Society for Testing Materials
E. W. Roemer, member-at-large
Edward Ruehl, American Municipal Association

The reports of the committees to the Building Code Correlating Committee are summarized below, with the names of the sponsor organizations following each report.

Specifications for Fire Tests of Building Construction and Materials, A2—

Although no work is going on at the moment in this committee, there is considerable activity in subcommittees of Committee C-5 of the American Society for Testing Materials, where the fundamental work in this field has been done. This work has included such problems as appropriate test requirements for roofs and ceilings. It is expected that the work done by these C-5 subcommittees will be the basis for work of the ASA committee A2.—*American Society for Testing Materials; Fire Protection Group; National Bureau of Standards.*

Building Exits Code, A9—

Changes in the standard approved in 1942 are under consideration.—*National Fire Protection Association.*

Building Code Requirements and Good Practice Recommendations for Masonry, A41—

This standard, approved early in 1944, has been favorably received and is being widely used. Preliminary steps are now being taken toward the development of a standard on reinforced masonry.—*National Bureau of Standards.*

Building Code Requirements for Fire Protection and Fire Resistance, A51—

Three subcommittees concerned with wall and ceiling finishes, roofing, and protection of wall openings are actively at work. A fourth subcommittee on definitons has prepared a report that is to be considered by the sectional committee at a meeting scheduled in late March.—*National Board of Fire Underwriters; National Bureau of Standards; National Fire Protection Association.*

Building Code Requirements for Chimneys and Heating Appliances, A52—

Reports from three subcommittees, on chimneys and fireplaces; on smoke stacks and special flues; and on heat-appliance mountings and clearances, smoke pipes, and steam pipes, were considered at a meeting of the committee February 23, 1945.—*National Bureau of Standards.*

Building Code Requirements for Light and Ventilation, A53—

It is expected that a standard will be ready for approval within a few months.—*Federal Housing Adminstration; U. S. Public Health Service.*

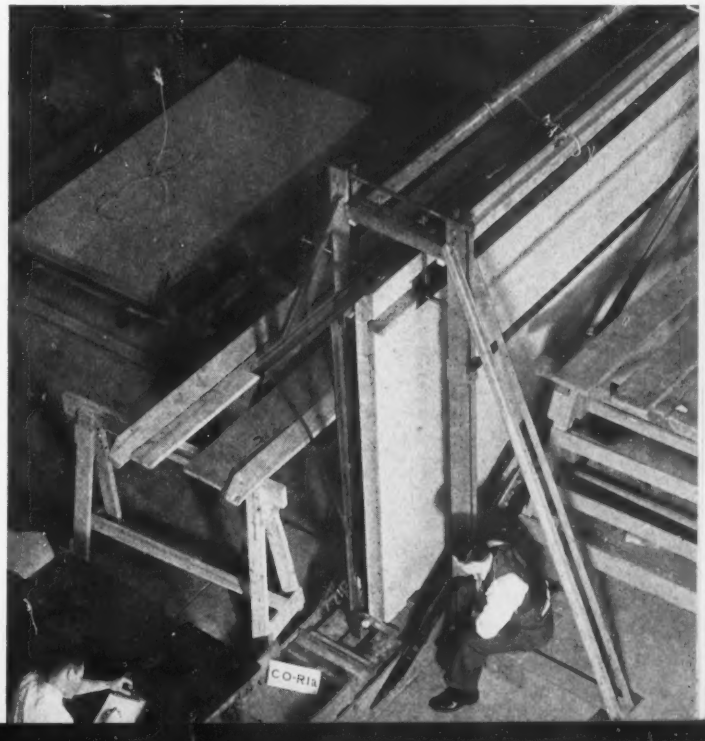
Building Code Requirements for Fire Extinguishing Equipment, A54—

As a result of recent research, the National Fire Protection Association standards on fire-extinguishing equipment are being brought up to date. With the completion of this work it is expected that a program for the sectional committee will be proposed by the sponsor.—*National Fire Protection Association.*

Administrative Requirements for Building Codes, A55—

Review of the standard approved in 1944 is now under way in view of suggestions for adding sections on prefabricated construction and on duties of building and fire departments. A request from the Pacific Coast Building Officials Conference that its new sections on administrative requirements take the place of the approved American Standard has been submitted to the committee for consideration.—*American Municipal Association; Building Officials Conference of America.*

National Bureau of Standards tests on the ability of adjoining walls to withstand wind pressure have been used by the committee on minimum design loads.



Building Code Requirements for Excavations and Foundations, A56—

An editing committee is now working on changes suggested by the sectional committee in a letter ballot on the second draft of this proposed standard.—*American Society of Civil Engineers.*

The Building Code Correlating Committee

Sixteen building code committees are now working under the supervision of the Building Code Correlating Committee, which coordinates and supervises the work on building codes going forward under the procedure of the American Standards Association. The Committee makes recommendations to the Standards Council on the initiation of projects, membership of committees, and approval of completed standards. Its membership consists of organizations having an interest in the whole building field. The member organizations and their representatives are:

George N. Thompson, chief, Building Codes Section, National Bureau of Standards, *Chairman.*

Walker S. Lee, president, Building Officials Conference of America, *Vice-Chairman.*

American Institute of Architects, *J. Andre Fouilhoux; Charles B. Meyers (alternate); Theodore I. Coe; Irwin S. Porter (alternate)*
American Municipal Association, *Edward Ruehl*
American Public Health Association, *James L. Barron; W. Scott Johnson (alternate)*
American Society of Civil Engineers, *C. A. Willson; Albert H. Baum (alternate)*
American Society for Testing Materials, *Rudolph P. Miller; R. E. Hess (alternate)*
Associated Factory Mutual Fire Insurance Companies, *Arthur L. Brown; Herbert A. Sweet (alternate)*
Associated General Contractors of America, *A. V. Bekay*
Building Officials Conference of America, *Walker S. Lee; Joseph P. Wolff (alternate)*
Federal Security Agency, U. S. Public Health Service, *Harry E. Seifert; Thalbert R. Thomas (alternate)*
Federal Works Agency, Public Buildings Administration, *C. W. Chamberlain; J. W. Strohman (alternate)*
Forest Products Laboratory, *L. J. Markwardt; T. R. C. Wilson (alternate)*
International Association of Governmental Labor Officials, *Oscar T. Nelson; Alexander Findlay (alternate)*
National Association of Real Estate Boards *(to be appointed)*
National Board of Fire Underwriters, *C. T. Bissell; E. W. Fowler (alternate)*
National Bureau of Standards, U. S. Department of Commerce, *George N. Thompson; Vincent B. Phelan (alternate)*
National Conservation Bureau, *Donald Vaughan; R. J. Behley (alternate)*
National Fire Protection Association, *R. S. Moulton*
National Housing Agency, *Gilbert L. Rodier; Richard F. Voell; R. J. Wadsworth (alternate)*
National Safety Council, *Kenneth E. Turn; William L. Davidson (alternate)*
Pacific Coast Building Officials Conference, *Hal Colling*
Members-at-Large, *W. H. Crowell; William Arthur Payne; Edward W. Roemer; H. P. Vermilya*
H. M. Lawrence, American Standards Asosciation, *Secretary*
J. H. Courtney, American Standards Association, *Technical Secretary*

Building Code Requirements for Structural Steel, A57—

Separation of work on iron and steel into two projects (A57 to cover structural steel and A87 to include iron and steel other than structural steel) is now under way. A proposed standard on steel joist construction has been completed by the sectional committee.—*American Institute of Steel Construction; American Society of Civil Engineers.*

Building Code Requirements for Minimum Design Loads in Buildings, A58—

It is expected that a proposed standard will be submitted to the American Standards Association by the sponsor this year.—*National Bureau of Standards.*

Building Code Requirements for Reinforced Gypsum Concrete, A59—

The standard approved in 1941 has been reviewed and the sectional committee has recommended that it be re-affirmed by the American Standards Association.—*Building Officials Conference of America; Gypsum Association.*

Building Code Requirements for Signs and Outdoor Display Structures, A60—

At its meeting February 7, the committee re-elected Alf H. Hall (Director, National Institute of Governmental Purchasing, and member-at-large on the committee) as chairman, and W. F. Hurd (Outdoor Advertising Association of America, Inc.) as secretary. As a result of consideration given by the committee to the third draft at its recent meeting, a few questions were referred to a subcommittee before the preparation of another draft for letter ballot action of the full committee.—*American Municipal Association; Outdoor Advertising Association of America.*

Building Code Requirements for Wood, A61—

The pressure of war work has made it necessary, the sponsor of this project report, to defer committee activities.—*Forest Service, U. S. Department of Agriculture; National Lumber Manufacturers Association.*

Building Code Requirements for Iron and Steel (Other Than Structural Steel), A87—

This committee is now being organized to deal with part of the work on iron and steel formerly under the jurisdiction of committee A57.—*American Society of Civil Engineers; American Iron and Steel Institute.*

Building Code Requirements for Grandstands, Tents and Places of Outdoor Assembly, Z20—

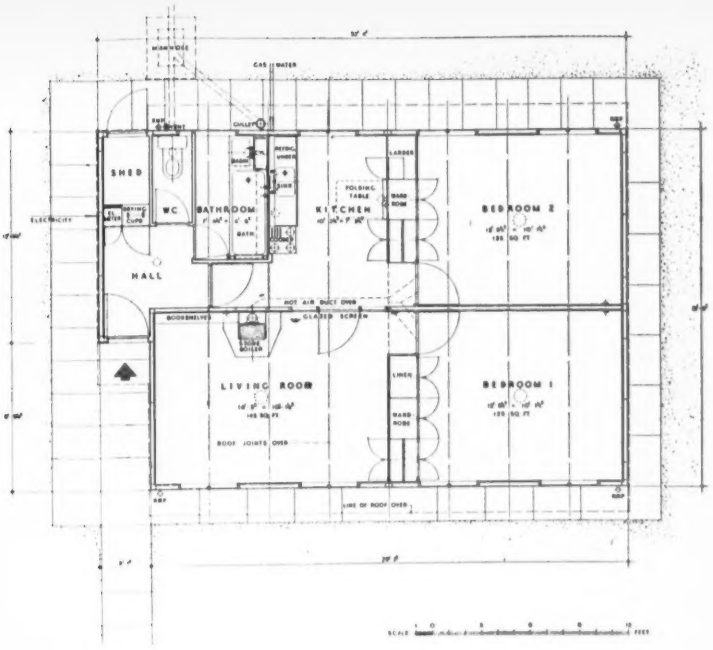
A draft of a proposed standard has been completed and will be considered by the sectional committee at a meeting scheduled for late in March.—*Building Officials Conference of America; National Fire Protection Association.*

New Templates for Drawing American Standard Graphical Symbols

The Keuffel & Esser Company has designed and made available in its "Leroy" system of drafting guides a template which permits the rapid drawing of all of the symbols given in the newly approved American Standard Graphical Symbols for Telephone, Telegraph, and Radio Use, Z32.5-1944. The template follows the standard in both the design and the size of the symbols.

The company has also made a similar template based on the American Standard Welding Symbols and Instructions for Their Use, Z32.1-1942.

First Reports In British Post-war Building Study



Steel prefabricated house, considered for emergency postwar construction

FACED with the immediate problem after the war of constructing nearly 5,000,000 homes in Great Britain, to say nothing of schools and industrial buildings, committees appointed by the British Ministry of Works have developed recommendations for building practice which are expected to form the basis for the British building codes of the future.

The recommendations are part of a comprehensive program initiated by the British Ministry of Works in 1941 when 22 study committees representing the entire field of building were organized to investigate and report on major building problems.

Several of the 22 committees have already issued postwar building studies incorporating recommendations which are the result of surveys in their respective fields. From these recommendations a series of standards will be drafted by the British Standards Institution for industrial and governmental use. Studies completed to date cover house construction; standard construction for schools; plastics; gas installations; steel structures; reinforced concrete structures; solid fuel installations; electrical installations; and sound insulation and acoustics.

In the study on house construction, the committee surveyed building methods adopted after the last war and found that some were usable and that others, although excellent, had been inefficiently applied. As a result, the committee recommended the following postwar alternatives to traditional building practice:

Concrete walls using light-weight aggregates, either pre-molded or molded on the building site;
Timber construction for general use, limited in application because of fire and vermin hazards;
Light steel-frame construction; and
Metal-clad walls.

Part I of the study on house construction suggests methods of design for thermal and sound insulation as well as additional methods to ensure strength and stability. Part III summarizes possible alternative materials which can be used during temporary shortages of normal materials.

Data on research and standardization in the housing field gathered by Sir Ernest Simon, representative of the Ministry of Works and Planning, on a recent trip to the United States, have stimulated an interest in the possibility of applying many features of American methods for building and building equipment in Great Britain.

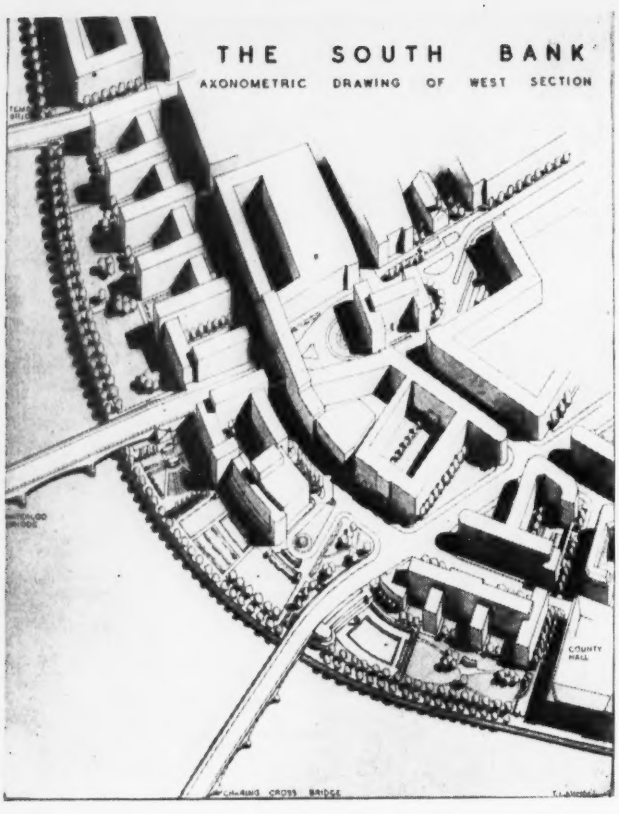
When British building operations are resumed there will be a demand for school building greatly exceeding pre-war programs, which were far below essential requirements even for pre-war needs, the committees report. An increase of £65 million in school construction expenditures, alone, is anticipated.

Standard Methods Essential

British architects believe that standardized methods of construction are essential in view of the size of the program and the technical problems involved. In the recommendations of the study on standard construction for schools, it is pointed out that negotiations for school-building contracts and time-consuming delays for approval of plans can be shortened substantially by standardization of planning and building. The main units of school buildings are by their functional nature standardized in dimensions, equipment, and to some extent in relationship, the report notes.

In the study, school buildings are divided into three groups: Classrooms, laboratories, and gymnasiums, which include assembly halls. Standards are outlined for the dimensions of rooms and number and types of rooms required for varying types of schools and varying numbers of pupils. Competent architectural treatment can eliminate monotonous uniformity, thus avoiding even the appearance of regimentation, the report points out.

(Continued on next page)



How the South Bank of London's Thames will look after rebuilding if one of the plans now being considered is carried out

Two solutions of the problem are proposed. First, that a school which is a complete unit in itself should be designed to allow the use of a standard steel framework with a unit dimension of 24 feet in width. Second, that the principal parts of a school unit, such as classroom blocks, halls, etc, should be multiples of a standard unit of construction, the link between the parts being nonstandard.

Further research to determine the best and most economical type of structural units is suggested. Possibilities for standardization and prefabrication with freedom for flexibility in layout and elevation are possible in these recommendations, architects are inclined to believe. The building of schools following both plans, near the centers of bombed cities, as an incentive to the program, is being urged by the British building industry.

The study on plastics points out that plastics are suitable for some building purposes but that they should be chosen with discrimination in order to make the best use of available supplies and give maximum service.

Recommends Development of Plastics

The study recommends the development of plastics for building purposes and suggests close cooperation between the two industries to ensure suitable selection and satisfactory performance. It recommends further that study of plastics and their use should be included in technical courses and lists subjects in the plastics field for study and research. Eventual standardization of the sizes of sheet materials is recommended, as well as a series of British Standards for the use of plastics in building.

Recommendations for gas appliances are limited to single-family dwellings and schools in the study on gas installations, and cover gas service pipes, inside installations, gas meters, and gas appliances (for cooking, water heating, space heating, refrigerators, flues, and installations in a typical school and in domestic science schools). Recommended types of gas-heating equipment are listed.

Stresses and Loads Included

The study on steel structures includes recommendations for the amount of loading on floors, design methods based on true stresses in beams and columns, permissible amounts of stress in steel parts, types of casing for steel parts, standardization of construction, extended use of welding, designs of cleats and connections, pressures on concrete foundations, elimination of outmoded methods in steel construction, and use of cold rolled strip and light structural shapes.

The study on Reinforced Concrete Structures recommends a new code of practice for reinforced concrete and includes additional specific recommendations for loads on floors and roofs, stresses in steel and concrete, improvement in methods of design and construction, reinforced concrete foundations, prestressed and vibrated concrete welding and composite construction.

In the study on solid fuel installations the recommendations point out that solid fuel-burning equipment should be designed to give the following service: All-night burning (10 hours without refueling); approximately instantaneous service; higher thermal efficiency; multiple duty; labor-saving in operation and

British Building Studies Completed to Date

No. 1	House Construction	2s net
No. 2	Standard Construction for Schools	6d net
No. 3	Plastics	1s net
No. 6	Gas Installations	6d net
No. 7	Steel Structures	6d net
No. 8	Reinforced Concrete Structures	6d net
No. 10	Solid Fuel Installations	9d net
No. 11	Electrical Installations	1s 6d net
No. 12	The Lighting of Buildings	2s 6d net
No. 14	Sound Insulation and Acoustics	1s net
No. 15	Walls, Floors and Roofs	9d net
No. 16	Business Buildings	1s net

These studies, prepared by committees appointed by the British Ministry of Works, can be purchased directly from H.M. Stationery Office, York House, Kingsway, London, W.C.2.

maintenance; and adaptability to a wide range of fuels, such as bituminous or smokeless fuel, including coke.

Electrical Installations in Small Houses

Service and control arrangements of electrical installations in small houses and apartments are discussed in the study on Electrical Installations. Other subjects discussed include ownership and control of electrical service, electricity in apartments, offices and administration buildings, department stores and hotels, schools, hospitals, and farm buildings.

The study, "Sound Insulation and Acoustics," takes up the problems of outdoor and indoor noise in private and public dwellings, acoustical problems of auditoriums, and proposals for future research. The study also summarizes standards and treatments for sound insulation and acoustics.

Additional Reports Received by ASA Library

Two additional reports have now been received by the ASA Library. Although received too late for review in this article, these reports are listed in the box on page 66.

Members Appointed On Board and Council Committees

Members of the working committees of the Board of Directors and Standards Council of the American Standards Association have been appointed for the coming year. They are:

Finance Committee of the Board—

George S. Case, chairman of board, Lamson and Sessions Company, *Chairman*
Frederick R. Lack, vice-president, Western Electric Company, Inc (Institute of Radio Engineers)
R. L. Pearson, vice-president, Peoples Transit Company of Dayton, Ohio (American Transit Association)

Nominating Committee of Board—

In addition to nominating candidates for ASA President and Vice-President, this committee considers the nominations of the Standards Council and recommends five Member-Bodies for representation on the Board of Directors.

R. E. Zimmerman, vice-president, U. S. Steel Corporation, *Chairman*
Willits H. Sawyer, president, Peoples Transit Company of Dayton, Ohio (American Transit Association)
Clifton E. Mack, Director of Procurement, U. S. Treasury Department (U. S. Treasury Department)

Committee on Membership—

This committee reports to the Board of Directors on applications for membership and makes recommendations to the Board in regard to the eligibility of an organization for the status of Member-Body or Associate Member.

H. S. Osborne, chief engineer, American Telephone & Telegraph Company (American Institute of Electrical Engineers), *Chairman*
Alvah Small, president, Underwriters' Laboratories, Inc (Fire Protection Group)

Nominating Committee of Standards Council—

In addition to nominating the Chairman and Vice-chairman of the Standards Council, this committee nominates 10 Member-Bodies eligible for representation on the Board of Directors to provide rotation of membership.

Charles R. Harte, engineer, The Connecticut Company (American Transit Association), *Chairman*
F. O. Hoagland, vice-president, Pratt and Whitney Division, Niles-Bement-Pond Company (National Machine Tool Builders Association)
C. B. LePage, assistant secretary, American Society of Mechanical Engineers (American Society of Mechanical Engineers)
Walter S. Paine, manager, Engineering and Inspection Department, Aetna Casualty and Surety Company (National Safety Council)
Commander W. C. Wagner (Electric Light and Power Group)

Advisory Committee on United Nations Standards Coordinating Committee Work—

This Advisory Committee has been appointed by the Standards Council to investigate proposals from American groups for coordination of standards to be carried out through the United Nations Standards Coordinating Committee.

Members of the Advisory Committee on United Nations Standards Coordinating Committee Work are:

H. S. Osborne, chief engineer, American Telephone & Telegraph Company (American Institute of Electrical Engineers), *Chairman*
L. F. Adams, assistant to vice-president, General Electric Company (National Electrical Manufacturers Association)
Alfred Iddles, application engineer, Babcock & Wilcox Company (American Society of Mechanical Engineers)
J. R. Townsend, materials standards engineer, Bell Telephone Laboratories, Inc. (American Society for Testing Materials)
A representative of the Bureau of Ships of the Navy Department

Committee on Procedure—

This committee reviews the assignment of administrative responsibility of all projects to correlating committees and makes recommendations to the Standards Council.

A. S. Johnson, American Mutual Liability Insurance Company of Boston, *Chairman*
F. M. Farmer, vice-president, Electrical Testing Laboratories, Inc.
Alfred Iddles, application engineer, Babcock & Wilcox Company
R. G. Kimbell, National Lumber Manufacturers Association
T. E. Veltfort, manager, Copper and Brass Research Association

Committee Asks Suggestions For Revising National Electrical Code

Out of the industry forums, from contractors' and inspectors' meetings, and from committee sessions and conferences will come a body of recommendations for revising the National Electrical Code.

Constructive help and criticism are not only welcomed but earnestly sought by the men who have taken on the responsibility for keeping the Code up-to-date.

The mechanism and established procedure for the 1945 revision is in action. The doors are open. Sincere, sound, and progressive suggestions leading to a better Code and better protection of life and property from electrical hazards will have a fair hearing and earnest consideration.

—*William T. Stuart, Electrical Contracting.*

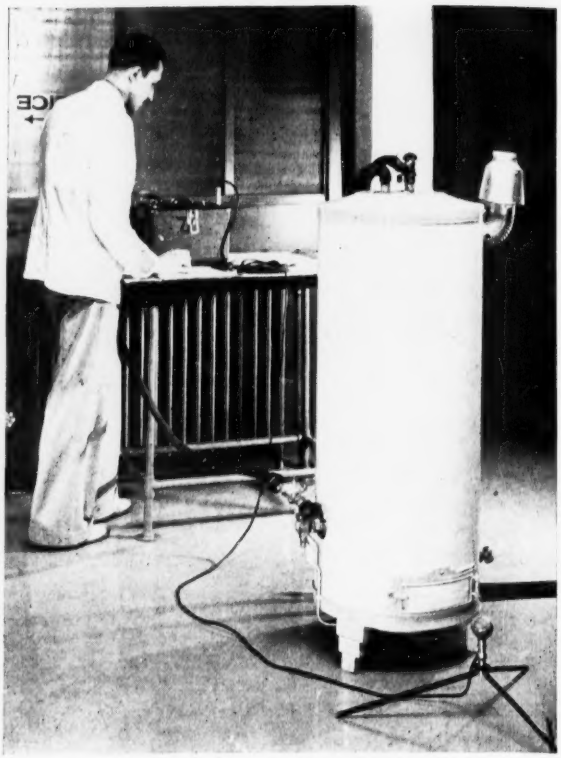
New Data in Revised Standard for Sound Level Meters

A revision of the American Standard for Sound Level Meters, originally issued as a tentative standard in 1936, was approved recently by the American Standards Association to bring it up to date with developments in acoustical practice in sound measurement.

Work on the new standard was carried out by a representative committee under the sponsorship of the Acoustical Society of America.

Among the improvements over the tentative standard are the inclusion of design-objective and tolerance curves for flat response-frequency characteristics of sound level meters and slight revisions in the previously agreed-on curves for 40 and 70 decibel equal loudness contours. These last are used to weight meter readings to correspond more closely with the actual effect of noise upon the ear at different levels of loudness. To facilitate calculations by sound engineers in making measurements on special types of noises, the data from which the design-objective response curves of sound level meters have been plotted are also given in the new standard.

Copies of the new American Standard, Sound Level Meters for Measurement of Noise and Other Sounds, Z24.3-1944, may be obtained from the American Standards Association at 25 cents each.



Right: Using a sound level meter to test the amount of noise made by a water heater.

Radio Manufacturers Association Becomes ASA Member-Body

The Radio Manufacturers Association, which has just become a Member-Body of the American Standards Association, was established in 1924, and now represents approximately all radio manufacturers. It works cooperatively with industry, government, and the Army and Navy, as well as with foreign radio industry agencies.

Standardization activities of the RMA consist chiefly in promoting interchangeability of mechanical and electrical parts through standardization of size and characteristics of apparatus and in setting standard ratings for performance of material or apparatus. The General Standards Committee of the RMA Engineering Department acts as the validating body in the development and promulgation of such standards for the radio industry.

The RMA is represented on the Standards Council of the ASA by L. C. F. Horle, manager of the RMA Data Bureau. Virgil M. Graham, associate director, RMA Engineering Department, is alternate representative. Mr. Horle is well acquainted with ASA work. He is vice-chairman of the ASA Sectional Committee on Radio-Electrical Coordination, C63, having served on this committee since 1936. He is also a member of four additional ASA sectional committees, having served nearly seven years on the committees on Classification and Designation of Surface Qualities, B46, and on Valid Certification, Z34, and five years on Wire and Sheet Metal Gages, B32. He is a new member of the Sectional Committee on Preferred Voltage, 100 Volts and Under, C67.

The Radio Manufacturers Association functions under the management of Bond Geddes, executive vice president, and other officers, a Board of Directors, and an Executive Committee representing the Electron Tube, the Transmitter, the Receiver, the Parts, and the Amplifier and Sound Equipment Divisions.

Standard Parts to Reduce Postwar Production Costs

Twin Coach Company of Kent, Ohio, plans to reduce postwar production costs by standardizing parts, a recent issue of *Modern Industry* reports.

Standard motors will be used on all buses in single or dual installation. Exterior parts such as windows and frames will be stamped in such sizes that the largest or smallest coach can be assembled by installing different widths of body sections. Eight hundred of these buses will be manufactured in 1945, it is planned.

How Color Standards Aid In Accident Prevention

by Cyril Ainsworth

Assistant Secretary, American Standards Association

NOTE. This paper, presented at the Thirty-third National Safety Congress of the National Safety Council October 4, 1944, is of timely interest to ASA Members due to the activity of the ASA War Committee on Safety Color Code for Marking Physical Hazards. This committee held a meeting March 2, and as a result of its recommendations, a draft standard is now being circulated widely for comment and criticism.

THE interest shown during the past year or two in the use of color in accident-prevention work indicates that the safety engineer is alive to the necessity of using every tool available to him. He has not gone stale through lack of initiative in working out new techniques. It is not easy in a movement of this kind to find new ideas which will appeal to, and be effective with, large groups of individuals such as are found in our industries, and it is good to find that accident prevention after thirty or more years is young, vigorous, and alive to all possibilities for effective work.

Discussions in recent regional safety conferences have not only created a demand for more technical information on the use of color in safety work, but also for a safety color code universal in its application, and acceptable to all concerned. The War Department has taken the leadership in this demand by requesting the American Standards Association to set up a project through which a safety color code can be developed. As a result of this request, the ASA has organized a committee for this purpose and the work is now under way.

Much Information Available

Study of the subject preliminary to the decision to proceed with the project has shown that the subject is not as new as one might at first think. There is a wealth of information available to the safety engineer which he can use in handling specific problems, or in his safety engineering work throughout the plant.

Any one who has enjoyed sailing or yachting knows the meaning of the colored lights used on shipboard. These lights indicate the presence of another vessel, in conformity with the law of right of way of the sea which requires that any ship observing another vessel approach from the starboard must give way. At night, the port side of each ship carries a red light, while the starboard side carries a green light. This simple system, in general, signals to all ships that when they see the green light on another vessel they have the right of way, whereas when they observe an approaching red light they must concede the right of way to the approaching vessel. Thus, the use of color assists navigators in avoiding collisions.

Perhaps one of the earliest uses of colored signals has been that of the railroads. The railroad signals include red for "Stop" or "Danger", yellow for "Caution," and green for "Go." The railroads also use the color blue as "Warning" when men are working on certain equipment or where tank cars are being unloaded. It is interesting to note that in railroad signals *white* signifies "No Signal." This is particularly important because of the large number of illuminated signals that are provided with either green or red glass in front of a white light. When any one of these colored glasses is broken, therefore, a white light shows. As far as the engineer of a train is concerned, this means that he has no signal, and he must act with great caution until he can receive instructions through some other source or until he can see a signal in good order.

Color Chaos in Early Days of Autos

Everyone is familiar with the uniform traffic control devices for streets and highways. Today, as with the railroads, the green light means "Go" to everyone. Yellow or amber means "Caution," and red means "Stop." I am wondering how many people today can remember the early days of the automobile and the variety and contradiction of traffic signals that were first developed in various communities throughout the country. This chaotic condition was remedied through the development of the American Standard for Colors for Traffic Signals many years ago.

The latest form of transportation, the airplane, also makes use of color in signalling. The flashing red, green, and white lights not only indicate to one plane that another is in the vicinity, but also shows the direction from which the airplane is approaching and consequently the side on which it must be passed.

So much for the field of transportation. What has been done in connection with the use of color inside industrial establishments?

Under the leadership of the American Society of Mechanical Engineers, a Code for the Identification of Piping Systems was approved as American Recommended Practice by the American Standards Association in 1928. This standard recommends the identification of various classes of materials flowing in pipes in accordance with five color groups, as follows:

Red—Fire protection equipment
Orange-Yellow—Dangerous materials
Green—Safe materials
And when required
Blue—Protective materials (other than sprinkler systems)
Purple—Extra-valuable materials

Another color code was approved by the American

Standards Association in 1930. This covers the identification of gas mask canisters. Here, various colors and combinations of colors have been assigned to the different types of gases against which the gas masks afford protection.

In 1941, an American Standard which provides Specifications for Industrial Accident Prevention Signs was prepared under the leadership of the National Safety Council and approved by the ASA. This standard, in addition to specifying the shape and general layout of the signs, makes definite recommendations concerning the colors in which the signs should be painted. Red is specified for danger signs, yellow for caution signs, and green for safety instructions. Black and white are specified for directional signs. These colors, as well as those used with ships, railroads, automobiles, or airplanes, make it clear that the sign indicates danger, caution or safety as the case may be even though a person may not be able to read the language used on the sign.

Still another American Standard involves the use of color for accident-prevention purposes. This is the Building Exits Code developed by the National Fire Protection Association under the procedure of the American Standards Association. The color is used in connection with exit signs. The committee which prepared this document has been actively engaged since 1913 in studying the subject. The seventh edition, approved in 1942, departs somewhat from precedence with regard to color. For many years exit signs were colored red, but the present edition now prescribes *green* for such signs in conformity with the color scheme adopted for traffic signals whereby green indicates "go" and red means "stop."

Color Speaks Universal Language

This is the story of the use of color in industry in so far as accident-prevention work is concerned, and in so far as uniform national practice is concerned as indicated by American Standards Association approval.

Undoubtedly, individual industrial concerns have developed schemes involving the use of color in various phases of accident-prevention work. These have not been referred to in any specific way in this paper, because any difference which might be contained in them might cause confusion. Color is a universal language. A painted picture does more than present a scene. It tells a story, and, as far as accident-prevention work is concerned, a particular color should always tell the *same* story. Certain private standards should be mentioned, however, because they have been the cause of the present general interest in color as an aid in accident-prevention work, and thereby have brought about the demand for the development of a safety color code. These are the color codes developed by three of the leading paint manufacturers, which have been discussed in regional safety conferences during the past year.

It is not the purpose of this paper to discuss the advantages or disadvantages of each of the recommendations of the paint manufacturers. They have been presented for universal use by industry. Therefore they are being studied by the national committee which has been charged with the responsibility for developing a safety color code. The main consideration is the principle that color speaks a universal language, and the future color code must be based on this principle *and* must be in harmony with the basic concepts of the uniform standards to which reference has been made.

Colorblindness Important Factor

As in the case of all the standards which have been developed, the setting up of a general safety color code does not simply involve the choice of a particular color for this, and another for that, purpose. Very careful consideration must be given to the actual definition of the colors in terms of one of the accepted methods for determining the true definition of a particular color. It is not generally understood, for instance, that a very large proportion of the population are what are known as normally colorblind persons. While some cannot distinguish the difference in colors at all, others can distinguish the difference if given a little aid. A great amount of attention was paid to this problem of colorblindness in developing all of the standards to which reference has been made. For example, the particular shade of green which is specified for street traffic lights was chosen because of the amount of blue which it contains. This amount of blue makes it easy for the normally colorblind person to clearly distinguish green from red and thus to drive down our highways without fear of becoming involved in an accident through inability to understand signals. The new committee has many highly technical problems such as this to solve, and therefore needs all the assistance which can be obtained.

Industrial safety engineers can help in the development of these problems in several ways:

1. They can send to the American Standards Association any technical information which they believe will be of value to the committee.

2. They can study and criticize the tentative draft of a color code which will be distributed widely to industry for this purpose before the committee completes its assignment.

3. They can put the final code into active use in order that a body of experience can be obtained to indicate the future changes which should be made to make the code more effective.

In this way the safety engineering fraternity as a whole can make another contribution to the ever-improving accident-prevention record of American industry.

ASA Welcomes New Company Members

The American Standards Association welcomes the following new Company Members which have just joined the ASA:

Adel Precision Products Corporation, Burbank, California
Enterprise Engine & Foundry Company, San Francisco, California
Harvey-Wells Electronics, Inc, Southbridge, Massachusetts
Knoxville Electric Power & Water Board, Knoxville, Tennessee

Standards Issued by Associations and Government

(For new American Standards see page 78.)

For the information of ASA Members, the American Standards Association gives here a selected list of standards received by the ASA Library last month. The list below includes only those standards which the ASA believes are of greatest interest to Members.

These standards may be consulted by ASA Members at the ASA Library, or copies may be obtained from the organization issuing the standard. The address of the organization is included for your convenience in ordering.

Associations and Technical Societies

American Society for Testing Materials (260 South Broad Street, Philadelphia 2, Pa.)

As a service to Company Members, the ASA maintains a sale file of all ASTM standards. They can be purchased from the ASA Sales Department at 25 cents each except where otherwise noted.

Tentative Method of Test for:

Heat of Hydration of Portland Cement C186-44T
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate C88-44T
Surface Moisture in Fine Aggregate C70-44T

Standard Specifications for:

Aggregate for Masonry Mortar C144-44
Alloy-Steel Bolting Material for High-Temperature Service A96-44
Alloy-Steel Castings for Valves, Flanges, and Fittings for Service at Temperatures from 750 to 1100 F A157-44
Aluminum Ingots for Remelting B24-44
Asphalt for Use in Constructing Built-Up Roof Coverings D312-44
Asphalt-Saturated Roofing Felt for Use in Waterproofing and in Constructing Built-Up Roofs D226-44
Asphalt Siding Surfaced with Coarse Mineral Granules D699-44
Atomic Hydrogen-Arc-Welded and Electric-Resistance-Welded Alloy-Steel Boiler and Superheater Tubes A249-44
Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses A120-44
Boiler and Firebox Steel for Locomotives A30-44
Bronze Castings in the Rough for Locomotive Wearing Parts B66-44
Car and Tender Journal Bearings, Lined B67-44
Carbon-Silicon Steel Plates of Ordinary Tensile Ranges for Fusion-Welded Boilers and Other Pressure Vessels (including Emergency Alternate Provisions) A201-44
Carbon-Steel and Alloy-Steel Castings for Railroads (including Emergency Alternate Provisions) A87-44
Carbon-Steel Bars for Springs A14-44
Carbon-Steel Bars for Springs, with Special Silicon Requirements A68-44
Carbon-Steel Castings for Miscellaneous Industrial Uses A27-44
Carbon-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service (including Emergency Alternate Provisions) A95-44
Carbon-Steel Castings Suitable for Fusion Welding for Miscellaneous Industrial Uses (including Emergency Alternate Provisions) A215-44
Carbon-Steel Plates for Stationary Boilers and Other Pressure Vessels A70-44
Carbon-Steel Valve Spring Quality Wire A230-41
Chrome-Manganese-Silicon (CMS) Alloy-Steel Plates for Boilers and Other Pressure Vessels (Emergency Alternate Provisions) A202-44
Coal-Tar Saturated Roofing Felt for Use in Waterproofing and in Constructing Built-Up Roofs D227-44
Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft B8-44
Concrete Aggregates C33-44
Composition Brass or Ounce Metal Castings B62-44
Copper-Silicon Alloy Rods, Bars, and Shapes (including Emergency Provisions) B98-44
Copper-Silicon Alloy Sheet and Strip for General Purposes B97-44
Corrosion-Resisting Chromium-Nickel Steel Plate, Sheet and Strip A167-44
Corrosion-Resisting Chromium Steel Plate, Sheet, and Strip A176-44
Crushed Stone and Crushed Slag for Bituminous Macadam Base and Surface Courses of Pavements D693-44
Electric-Resistance-Welded Carbon-Molybdenum Alloy-Steel Boiler and Superheater Tubes A250-44
Electric-Resistance-Welded Steel and Open-Hearth Iron Boiler Tubes A178-44
Electric-Resistance-Welded Steel Heat-Exchanger and Condenser Tubes A214-44
Electric-Resistance-Welded Steel Boiler and Superheater Tubes for High-Pressure Service A226-44
Electric-Resistance-Welded Steel Pipe A135-44
Factory-Made Wrought Carbon-Steel and Carbon-Molybdenum-Steel Welding Fittings A234-44
Fireclay Plastic Refractories for Boiler and Incinerator Services C176-44
Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for Service at Temperatures from 750 to 1100F A182-44
Free-Cutting Brass Rod and Bar for Use in Screw Machines (including Emergency Alternate Provisions) B16-44
Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes (including Emergency Alternate Provisions) A83-44
Low-Carbon Nickel-Steel Plates for Boilers and Other Pressure Vessels A203-44
Molybdenum-Steel Plates for Boilers and Other Pressure Vessels A204-44
Multiple-Wear Wrought Steel Wheels A57-44
Normal Finishing Hydrated Lime C6-44
Phosphor Bronze Sheet and Strip B103-44
Rolled Copper-Alloy Bearing and Expansion Plates for Bridge and Other Structural Uses B100-44
Seamless Alloy-Steel Boiler and Superheater Tubes A213-44
Seamless Carbon-Molybdenum Alloy-Steel Boiler and Superheater Tubes A209-44
Seamless Cold-Drawn Low-Carbon Steel Heat-Exchanger and Condenser Tubes A179-44
Seamless Intermediate Alloy-Steel Still Tubes for Refinery Service A200-44
Seamless Low-Carbon and Carbon-Molybdenum Steel Still Tubes for Refinery Service A161-44
Spiral-Welded Steel or Iron Pipe A211-44
Steam or Valve Bronze Castings B61-44
Welded and Seamless Steel Pipe Piles A252-44
Welded Alloyed Open-Hearth Iron Pipe A253-44
Welded and Seamless Steel Pipe (including Emergency Alternate Provisions) A53-44
Wide Selvage Asphalt Roofing Surfaced with Coarse Mineral Granules D371-44
Woven Cotton Fabrics Saturated with Bituminous Substances for Use in Waterproofing D173-44

Standard Method of:

Sampling Fresh Concrete C172-44
Sampling Hydraulic Cement C183-44
Testing Asbestos Tubular Sleeving D628-44
Wetting-and-Drying Test of Compacted Soil-Cement Mixtures D559-44

Standard Method of Test for:

Coal and Lignite in Sand C123-44
Coefficient of Linear Thermal Expansion of Plastics D696-44
Compressive Strength of Concrete Using Portions of Beams Broken in Flexure C116-44
Compressive Strength of Molded Concrete Cylinders C39-44
Ductility of Bituminous Materials D113-44
Fineness of Hydraulic Cement by the No. 200 Sieve C184-44
Fineness of Wool D419-44
Flammability of Plastics Over 0.050 In. in Thickness D635-44
Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading) C78-44
Gum Content of Gasoline D381-44
Magnetic Properties of Iron and Steel A34-44
Moisture-Density Relations of Soil-Cement Mixtures D558-44
Rayon Staple D540-44
Saponification Number of Petroleum Products by Color-Indicator Titration D94-44
Specific Gravity of Hydraulic Cement C188-44
Structural Strength of Fine Aggregate Using Constant Water-Cement-Ratio Mortar C87-44
Sulfur in Petroleum Oils by Bomb Method (including Emergency Alternate Provisions) D129-44
Viscosity by Means of the Saybolt Viscosimeter D88-44
Weight Per Cubic Foot, Yield, and Air Content (Gravimetric) of Concrete C138-44

Standard Methods of Testing and Tolerances for:

Spun Rayon Yarns and Threads D507-44
Woolen Yarns D403-44

U. S. Government

(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)

Army Air Forces

List of Material and Process Specifications Bulletin No. 23, February, 1945

Federal Specifications Executive Committee (U. S. Treasury Department, Washington, D. C.)

Federal Specifications are prepared for use by all government departments and establishments in their purchases. Copies are available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. at 5 cents each. Requests should be accompanied by cash, check, or money order.

As a service to Company Members, the ASA maintains a sale file of all Federal Specifications. These specifications can be purchased from the ASA Sales Department.

Federal Specifications

Brushes; Flowing, Skunk-Hair (Amendment 5) H-B-256 February 15, 1945
Cable, Armored (including lead-covered types and armored cord); 0 to 600-Volt Service (superseding J-C 71 and E-J-C-71, 7-18-42) J-C-71a March 1, 1942
Figures and letters; stamping, steel (superseding GGG-F-311) GGG-F-311a February 1, 1945
Feedstuffs; Concentrated (superseding N-F-211a) N-F-211b February 15, 1945
Fire-extinguishing-liquid; carbon-tetrachloride base (superseding O-F-380) O-F-380a February 15, 1945
Grains (superseding N-G-651) N-G-651a March 15, 1945
Hay; Feeding (superseding N-H-121) N-H-121a March 15, 1945
Hammers; electric, portable (Amendment 1) OO-H-103 March 1, 1945
Head-Bands (For Mirror), Leather; (For Medical and Surgical Use) GG-H-166 March 15, 1945
Ladders; Step (Amendment 1) (superseding E-LLL-L-61, 1-12-43) LL-L-61 March 15, 1945
Lumber and Timber; Hardwood (Amendment 3) MM-L-736 March 1, 1945
Lumber and Timber; Softwood (Amendment 1) MM-L-751c March 1, 1945
Medicinal Products and Clinical Laboratory Reagents; General Specification for Containers (Packaging and Packing) (new) U-M-186 February 15, 1945
Packing; Fabric, Condenser-Tube (Amendment 1) HH-P-71 March 1, 1945
Paper; Teletype, Roll and Tape (Amendment 1) UU-P-547c February 15, 1945
Pillowcases; Rubber (Amendment 1) ZZ-P-361 February 15, 1945
Plaster; adhesive, surgical (superseding U-P-401 and E-U-P-401, 7-5-43) U-P-401a March 1, 1945
Scales; prescription (Amendment 1) AAA-S-91 March 1, 1945
Slabs; Cement-Mixing, Glass, Plain (Dental) (new) DD-S-431 March 1, 1945
Stone; Artificial, Quick-Setting (Dental) (new) U-S-746 March 15, 1945
Sheets (Corrugated) and Shapes; Cement-Asbestos (new) SS-S-284 March 15, 1945
Shingles; Roofing Cement-Asbestos (superseding SS-S-291) SS-S-291a March 15, 1945
Sugar; Beet or Cane (Amendment 1) JJ-S-791a February 15, 1945
Supports; Laboratory-Apparatus (superseding GG-S-801) GG-S-801a February 15, 1945
Testers; Antifreeze-Solutions (superseding GG-H-916) GG-T-241 February 15, 1945

National Bureau of Standards (Washington 25, D. C.)

Commercial Standards

Porcelain-Enameled Steel Utensils CS100-44 10¢

Simplified Practice Recommendations

Clay Sewer Pipe, Proposed Recommendation for
Cotton Canton Flannels for Work Gloves R186-44 5¢
Pipes, Ducts, and Fittings for Warm Air Heating and Air Conditioning, Proposed Recommendation for
Steel Lockers (Single, Double, and Multiple Tier) R35-44 5¢
Swiss Pattern Files R206-44 5¢

Letter Circulars

Publications by the Staff of the National Bureau of Standards LC 775
List of Commercial Standards LC 776
Thermal Insulation of Dwelling Houses LC 774

Miscellaneous

Federal Specification Index, Revised to January 1, 1945 25¢

U. S. Department of Agriculture (Washington 25, D.C.)

Standards for Farm Products of the Office of Marketing Services, Check List, Revised to January 1, 1945

Paper Association Awards Medal

Bourdon W. Scribner, who is responsible for initiating the testing standards in the paper industry, has been awarded a gold medal by the Technical Association of the Pulp and Paper Industry for outstanding contributions to technical development in the industry.

Mr. Scribner, thirteenth recipient of the TAPPI Gold Medal, is chairman of the Association's paper testing committee, having served since 1925. He also serves on the standards and optical properties committees and is a member of the Committee for Government Printing Office Specifications.

Staff Executives of ASA Members On New Advisory Committee

C. L. Warwick

A Conference Committee of Staff Executives of Member-Bodies and Associate Members has been appointed by the American Standards Association to provide a means through which the ASA staff and staff executives of ASA Members may discuss matters of mutual interests. It is expected that the advice of such a group will also be helpful to the officers and Board of Directors of the American Standards Association.

Among the subjects that have been suggested for discussion are the legal aspects of standardization; the relationships between industry and government in standardization work; the practical significance and potentialities of industrial standardization; simplified practice recommendation and type standardization; and what ASA can do to promote and strengthen the standardization work of its Member-Bodies.

Members of the Conference Committee are:

C. L. Warwick, secretary-treasurer, American Society for Testing Materials, *Chairman*
Percy Bugbee, general manager, National Fire Protection Association
Miss Irene Blunt, secretary, National Federation of Textiles
W. J. Donald, managing director, National Electrical Manufacturers Association
C. B. LePage, assistant secretary, Boiler Code Committee, American Society of Mechanical Engineers
Herman Lind, president, American Institute of Bolt, Nut and Rivet Manufacturers
Harry B. Lindsay, secretary-treasurer, Grinding Wheel Manufacturers Association
T. E. Veltfort, manager, Copper and Brass Research Association
John A. C. Warner, secretary and general manager, Society of Automotive Engineers

New War Standards For Better Movie Sound

A new American War Standard intended to make for better sound reproduction in the nation's movie theaters has just been approved by the American Standards Association as American War Standard Sound Record and Scanning Area of 35-Mm Sound Motion Picture Prints, Z52.36-1945. This standard represents national agreement on the dimensions for the sound records and scanning area of regular 35-mm sound motion picture prints used in every theater in the country.

The active work of drawing up this standard was carried on jointly by the Research Council of the Academy of Motion Picture Arts and Sciences and the Society of Motion Picture Engineers.

A standard for the emulsion and sound record positions for direct front projection of 35-mm sound picture prints has also been adopted to supplement the first standard.

Copies of the American War Standard Sound Records and Scanning Area of 35-Mm Sound Motion Picture Prints, Z52.36-1945, and American War Standard Emulsion and Sound Record Positions for Direct Front Projection of 35-Mm Sound Motion Picture Prints, Z52.42-1945, may be obtained from the American Standards Association, 70 East 45th Street, New York 17, N. Y., at 10 cents each. Quantity prices are available on request.

New Publications On Magnetic Particle Testing

A new book, *Magnetic Particle Testing of Commercial Forgings*, published recently by the Forging Manufacturers' Association, Inc, is a guide that may be helpful to testing engineers and others interested.

The subject of magnetic particle testing is one that has been receiving considerable attention by technical organizations in recent months. The American Society for Testing Materials already has two tentative standards, which were accepted by the Society last year. These are ASTM Tentative Methods of Magnetic Particle Testing of Heavy Forgings, A 275-44 T, and ASTM Tentative Methods of Magnetic Particle Testing of Commercial Steel Castings, A 272-44 T.

The ASTM held a symposium, January 22 at Philadelphia, at which leading engineers and technologists familiar with the subject discussed magnetic particle testing and the use of the new techniques now being developed.

Copies of *Magnetic Particle Testing of Commercial Forgings* may be obtained at $2.00 from the Forging Manufacturers' Association, Inc, 366 Madison Avenue, New York 17, N. Y.

ASA Resumes Contacts With French Standardizing Body

A letter received recently from the Association Française de Normalization, Paris has now restored communication between the ASA and the French national standardizing body, interrupted by the war.

L'Afnor reported that standardization work has been continued despite four years of occupation and that it hopes now to resume the study of international standards. Copies of American Standards approved by the ASA since the war and copies of INDUSTRIAL STANDARDIZATION published during the same period are being forwarded to L'Afnor in reply to its request for information about ASA activities.

Currently, French standardization work is being geared to reconstruction and post-war production, L'Afnor reports, but work in the mechanical, metallurgical, and materials fields is also receiving active consideration.

Coonley Reports Progress in China

Howard Coonley, past president of the American Standards Association, now serving as adviser to the Chinese War Production Board, reports that a law establishing the Chinese WPB was approved by Generalissimo Chiang Kai-Shek and passed by the Legislative Yuan three days after the mission reached China. Mr. Coonley reports that remarkable progress has already been made in stepping up production in Chinese war factories. In a recent message to the Generalissimo, Donald M. Nelson, former chairman of the United States War Production Board and now special adviser to President Roosevelt, stated that the success of the Chinese WPB in organizing, establishing policies and programs, placing contracts, and obtaining important increases in production—all in three months and without previous experience—showed fine cooperation between the civilian government, army, and industry and gave promise of the steady industrial growth of China.

Dr. Wong Wen-Hao Is WPB Chairman

Dr. Wong Wen-Hao, Minister of Economics and chairman of the National Resources Committee, is the newly appointed chairman of the Chinese WPB. He worked closely with the Nelson mission, of which Mr. Coonley is deputy chief, in writing the law establishing the Board.

In order to collect factual data for the WPB program, specialists attached to the mission were sent to factories to estimate production capacity. Data on war requirements for 1945, gathered at the Ministries of War, Communications, Aeronautics, Economics, Agriculture, Liquid Fuels, and others were collated as a basis for planning increased production.

As a means of carrying out the program of the WPB more effectively, the International Supply Commission, the Liquid Fuel Commission, and the Industrial Mining Commission have now been turned over to WPB by edict of Generalissimo Chiang Kai-Shek. Two priorities committees are functioning, the first for requirements and production priorities, the second for transportation priorities.

The development of Emergency Standards for essential motor vehicle repair parts was started in China early in January and certain Emergency Standards have already been agreed upon. Emergency standards for other much needed products are being developed.

Mr. Coonley expects to return to the United States soon. It is reported that Dr. Wong Wen-Hao will accompany him for an extended visit to U. S. war production centers.

A. S. McAllister Retires

Addams S. McAllister, assistant director of the National Bureau of Standards, in charge of commercial standardization, retired February 28.

Dr. McAllister has long been closely associated with the American Standards Association, having served as liaison officer between the Bureau and the American Engineering Standards Committee (now the ASA) in 1921. He served as acting secretary of the AESC during the summer of that year while Dr. P. G. Agnew, secretary, was in Europe attending an international conference of the secretaries of the national standards associations, and had his headquarters in the AESC offices for several years after. Dr. McAllister served on the Standards Council of the ASA as representative for the U. S. Department of Commerce from 1930 to the present time.

Born at Covington, Virginia, in 1875, Dr. McAllister was graduated with honors from Pennsylvania State College in 1898 and received his master's degree and PhD from Cornell in 1901 and 1905. He entered the electrical engineering profession immediately on leaving college. In 1905 he became associate editor of the *Electrical World* and in 1912, its editor.

Dr. McAllister was first associated with the National Bureau of Standards in 1921 at the time he became liaison officer between the Bureau and the AESC. In 1926 he was chosen to head the newly organized division of specifications, and was appointed assistant director in charge of the commercial standardization group. He was the prime mover in developing the "willing-to-certify" plan for promoting buying by specifications, particularly Federal Specifications.

Under his direction important contributions were made to the Bureau's series of publications, among them the Standards Yearbooks, the various compilations of nationally recognized specifications in given fields, and the National Directory of Commodity Specifications, a revised edition of which is now nearing completion.

National Bureau of Standards Issues "Willing-to-Certify" List

A revised list of willing-to-certify sources of petroleum products (lubricants, fuels, asphalt, coke, road oil, tar, and floor oil); animal oils such as neat's foot; and vegetable oils such as castor oil, conforming to Federal Specifications is now available from the National Bureau of Standards.

Firms listed have indicated their willingness to certify to purchasers, upon request, that commodities supplied on contracts based on the Federal Specifications under which the firms are listed comply with the requirements and tests described and are so guaranteed.

Under the plan, 15 "willing-to-certify" lists representing more than 25,000 requests from industry, have been compiled. Listings comprise more than 14,000 firms and relate to approximately 860 commodities covered by Federal Specifications.

The list is titled, *Supplement I to Part IB of Letter Circular LC256A*, and is obtainable without charge from the Producer Contacts and Certification Section of the Bureau.

ASTM Issues 1944 Book of Standards

The complete new 1944 *Book of ASTM Standards*, issued in three parts, contains in their latest approved form all of the widely used specifications and tests for materials of the American Society for Testing Materials. This latest edition has 1235 specifications and standard methods which cover more than 6000 pages. All specifications, whether formal standards or tentative, are given.

The *Book* is issued in three parts:

Part I. Metals—Ferrous and nonferrous metals (all A and B and some E serial designations) except methods of chemical analysis. General testing methods (E serial designations).

Part II, Nonmetallic Materials—Constructional—Cementitious materials, concrete and aggregates, masonry building units, ceramics, pipe and tile, thermal insulating materials (all C serial designations). Wood and wood preservatives, paints, varnishes and lacquers, road materials, waterproofing and roofing materials, soils (certain D serial designations). General testing methods, thermometers (E serial designations).

Part III, Nonmetallic Materials—General.—Fuels, petroleum products, electrical insulating materials, rubber, textiles, soaps and detergents, paper, plastics, water (remainder of D serial designations). General testing methods, thermometers (E serial designations).

An innovation is the inclusion of all emergency standards and emergency alternate provisions which have been widely used to expedite production and procurement of important materials.

(The Society has issued a separate volume on *Chemical Analysis of Metals*, including standards and recommendations for both ferrous and nonferrous metals. These methods are not included in the *Book of Standards.*)

Each part of the 1944 *Book* has a complete subject index and there are two extensive tables of contents. The first of these tables of contents lists all standards under general materials headings; the second according to the serial designations of the standards.

The 1944 edition is a full year ahead of the normal publication date because of heavy demands for the 1942 Book, much of it occasioned by the war effort. The great increase in the standardization work is indicated by the fact that the 1939 Book contained 866 standards, 3700 pages, whereas the 1944 edition contain 1235 standards, 6030 pages.

As a service with the 1944 *Book of Standards*, a complete 200-page Index to Standards is furnished without additional charge. A copy accompanies the purchase of each part or complete set.

To keep the books up to date, a supplement will be issued to *each* part late in 1945.

The cost of each Part of the *Book of Standards* is $10; the charge for Supplements is $4 for each part each year. For half-leather binding add $1 extra for each part and each Supplement part. Copies may be obtained from the American Society for Testing Materials, 260 South Broad Street, Philadelphia, Pa.

Foundry Industry Recommends Safety and Hygiene Practices

A new code of recommended practices for the foundry industry, to foster foundry safety and hygiene, has been developed by the American Foundry Association's Industrial Hygiene Codes Committee and approved by the Association's Board of Directors. The code gives engineering data and minimum requirements for industrial housekeeping and sanitation.

"Large scale employment of women in war production work has focused attention on many problems of sanitation, ventilation, housekeeping, water supply, lighting, etc.," the Association points out in announcing the new code. "This code will provide sufficient data for protecting health and safety and promoting good industrial relations. It is a code that every foundry should have available for study and guidance, especially where women are employed."

Chapters in the code make recommendations on good housekeeping, ventilation, lighting, water, toilet rooms, wash and locker rooms, rest rooms for women, and lunch rooms.

Copies of the *Recommended Practices for Foundry Housekeeping* can be obtained from the American Foundrymen's Association, 222 W. Adams Street, Chicago 6, Illinois, at $1.50 per copy.

Suggest Post-War Simplification For Clay Sewer Pipe and Fittings

A proposed Simplified Practice Recommendation based on the simplified line of pipe and fittings specified in Limitation Order L-316 is being circulated to producers, distributors and users of clay sewer pipe for comment and acceptance. The recommendation is proposed for post-war use after Limitation Order L-316 is revoked and is not intended to replace the Limitation Order at the present time.

A considerable increase in efficiency of production resulted from adoption of the Limitation Order, which reduced variety of pipe and fittings from between 1,500 and 1,600 items to between 300 and 375 items. As a result, the Industry Committee asked the Division of Simplified Practice of the National Bureau of Standards to help develop a Simplified Practice Recommendation for post-war use.

The proposed recommendation now being circulated was prepared following a meeting of manufacturers with a representative of the Division, and following a survey of the industry. Replies received as a result of the survey were used by the Simplification Committee as a basis for the proposed recommendation.

Copies may be obtained from the Division of Simplified Practice, National Bureau of Standards.

Packers Plan Postwar Use Of Standard Containers

A large number of West Coast packers who use glass containers for foods, wines, distilled spirits, and coffee plan postwar use of the standard glass containers now required by WPB Order L-103, *Good Packaging*, leading trade magazine of the packing industry, declares in an article reporting the results of a recent survey.

Replies received from 1,159 questionnaires disclose that 90.6 percent of the packers who answered the question intend to keep all or part of their production in standard glass containers after the war, *Good Packaging* reports. Of the pack volume reported, 79.4 percent will remain standard.

Better display of products, lower cost of containers, and lower cost of packing operations are cited in the replies as the principal reasons for continuing the use of standard containers.

The question as to whether packers thought that standard glass containers had or had not reduced packing costs brought the fewest replies. Twenty-one packers, or 42.8 percent of those replying to this question stated that the costs had been cut from five to more than 25 percent; 27 reported that their costs had not been reduced; and 34 did not answer. Contributing causes of fewer replies to this query are listed as manpower shortages and shifts; difficulty in obtaining critical machines and materials; and lack of experience in handling standard containers. According to the survey, these factors make cost comparisons difficult to estimate and contribute to higher costs that have no bearing on the merit or demerit of standard containers.

Among the reasons given for continuing the use of standard containers, were included: convenience to users, re-use value, and the fact that there is no obsolescence when such containers are used.

WPB Order L-103 on glass container and closure simplification limited production to the designs, weights, sizes, and types specified in the Schedules issued in connection with the Order.

Emergency Commercial Standard for Dial Indicators

The National Bureau of Standards has just released an Emergency Commercial Standard for Dial Indicators (for Linear Measurements), CS (E) 119-45.

The standard was developed on request of the War Production Board, and through the voluntary cooperation of the industry with the Bureau, other Government agencies, distributors, and users. It covers minimum essential requirements for precision dial indicators in the American Gage Design type in four groups of sizes, ranging from 1⅜ in. to 3¾ in. bezel diameter, with four classes of dial markings in English measure, namely, 0.000,05, 0.000,1, 0.000,5, and 0.001 inch, and four classes of dial markings in metric measure, namely, 0.001, 0.002, 0.005, and 0.01 millimeter.

In addition to standard details for interchangeable mounting and limiting dimensions, the standard sets up requirements for uniform dial markings and dial numberings, repetition of readings, accuracy, packing, and marking to show the manufacturer's name or trademark. The standard further recommends that the individual manufacturers list in their catalogs and data sheets appropriate references to dial indicators of American Gage Design as recorded in this Commercial Standard. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents each, with a discount of 25 percent on orders of 100 or more to a single address.

Marketing Experts Agree On Labeling Definitions

In a recent study on simplification of marketing terminology, Dr. Kenneth Dameron of the College of Commerce, Ohio State University, reported that the following definitions of grade, descriptive, and informative labeling received universal approval from experts in the marketing, home economics, business, and governmental fields:

"*Grade labeling:* The practice of marking merchandise or the packages containing such merchandise with a designation such as A, B, C or First, Second, or Third, indicating that the article so marked falls within one or a series of quality classes defined by specifications or standards set up by government agencies, trade groups, and/or consumer organizations and usually accepted by the interested parties with reference to the various properties and characteristics which have been agreed upon as elements essential to a proper appraisal of its desirability.

"*Informative labeling:* The practice of imprinting upon an article, the container in which it is sold, or on tags attached to the article, information about the characteristics of the article that affect its quality, its attractiveness to consumers, or its usefulness to them. This information may be in the form of descriptions of the article or of certain features of it, or directions for its care and use. It may even, occasionally, be presented in pictures, if typical of the product, or in the form of samples of the product attached to the package, or visible through the package. Branding or trade marking is not usually regarded as a form of informative label.

"*Descriptive labeling:* The practice of attaching to or imprinting upon an article, or upon packages containing units of it, written material, or illustrations, or both, indicating the presence and extent of some or all of those properties and characteristics of the article which are or purport to be commonly regarded as measures or evidences of its quality and usefulness to the consumer. Quite often this label carries terms descriptive of each of the significant characteristics of the product that are susceptible to objective measurement."

WPB Announces New Courses On Quality Control

Three additional courses in the use of the statistical method of quality control, to give war industries assistance in developing improved methods of controlling the quality of their products, have been scheduled by the Office of Production Research and Development of the War Production Board and the U.S. Office of Education, Federal Security Agency. These courses are in addition to the 30 similar courses which have been offered by educational institutions under the sponsorship of WPB and the Office of Education. The three new courses were scheduled as follows:

Ohio State University, Columbus, Ohio, February 7-15
Northwestern University, Evanston, Illinois, March 14-22
University of Iowa, Iowa City, Iowa, May 16-24

Some of the advantages to be obtained from the use of the statistical methods of quality control, the WPB declares, are:

(*a*) They aid in providing reliable information for the determination of rational tolerances on quality characteristics.

(*b*) They save essential materials by reducing or eliminating the production of scrap.

(*c*) They aid in reducing inspection costs, and where sampling is necessary, they provide a scientific basis for the choice of efficient sampling procedures.

(*d*) They assist in better utilization of manpower by reducing or eliminating rework as well as by cutting scrap and reducing the amount of inspection needed.

"A number of large companies used statistical quality control methods before the war to improve quality and cut costs," the WPB declares. "Many plants working on war contracts have adopted statistical techniques in order to get increased production. They have reported that they found the methods valuable in helping them to meet more exacting demands and stricter standards in spite of poorly trained personnel and relatively unreliable sources of materials."

The American War Standards for Quality Control, Z1.1-1941; Z1.2-1941, and Z1.3-1942, are the official documents for use in putting the statistical methods of quality control into effect. Copies can be obtained from the American Standards Association.

Inquiries regarding the courses in Quality Control by Statistical Methods should be addressed to the Director of War Training of the institution offering the course. Information regarding the general training program in industrial quality control may be obtained from the Office of Production Research and Development, War Production Board, Washington 25, D. C.

New Standards from Other Countries

THE following new and revised standards, received recently by the American Standards Association from other countries, may be borrowed by ASA Members from the ASA Library or purchased through the Sales Department.

Australia

Draft Standard

Rules for Certification of "A" Grade Boiler Welding Operators CB.14

Canada

New Canadian Standard

Single-Phase Distribution Transformers, Standard Specification for, Third Edition C2-1944 50¢

Great Britain

New British Standards

Conversion Factors and Tables BS350:1944 75¢
Grading Rules for Stress-Graded Timber BS940:Part 1 1944 75¢
Non-ferrous Thimbles (Spigot and Socket) and Ferrules (Sleeve) BS1182:1944 75¢
Stoptap Guard-Pipes BS1185:1944 75¢
Wrought Steels (Carbon and Alloy Steels); Steels En. 1-58, Revised September, 1944 BS971:1944 $3.00
Memorandum to Consumers and Producers Regarding the Standardization of Alloy Steels BS970C, Revised September, 1944

Drafts of Proposed British Standards

Asbestos Cement Flue Pipes and Fittings for Gas Fired Appliances CG(ASB) 7163
Concrete Porous Pipes CG(CEB) 7091
Glass Bricks CG(B) 7585
Glass Internal Sills to Wood and Metal Windows CG(B) 7584
Jointing Compound for Threaded Joints, Domestic Gas appliances and Gas Installation Pipes CG(GS) 7682

Draft Revisions of British Standards

Asbestos Cement Flue Pipe and Fittings (Heavy Quality) for Heating and Cooking Appliances CG(ASB) 7164
Cement Concrete Cylindrical Pipes, Tubes and Fittings CG(CEB) 7090
Copper Cylinders for Domestic Purposes CG(HIB) 7513
Galvanized Mild Steel Cisterns, Tanks and Cylinders (War Emergency Issue) CG(HIB) 7515
Rot-Proof Jute Hessian Sandbags CG(ARP) 7506

New Zealand

Emergency Standards

Second Hand Sacks and Bags E154
Soft Solder E114
Lead-Acid Storage Batteries E155

Quade Represents Civil Engineers On ASA Standards Council

Maurice N. Quade of Parsons, Brinckerhoff, Hogan & Macdonald was appointed a member of the Standards Council of the ASA on February 6, 1945 to represent the American Society of Civil Engineers. Mr. Quade succeeds Rudolph P. Miller, consulting engineer.

Professor J. M. Garrelts and William J. Shea were designated to act as alternate representatives.

ASA Standards Activities

American Standards

American Standards Reapproved Since Our February Issue

Specifications for Basic Sulfate White Lead ASTM D 82-44; ASA K47.1-1945
Sponsor: American Society for Testing Materials

American Standards Reaffirmed Since Our February Issue

Basic Sulfate White Lead, Specifications for ASTM D 82-41; ASA K47-1941
Concrete Building Brick, Specfications for ASTM C 55-37; ASA A75.1-1942
Concrete Masonry Units, Methods of Sampling and Testing ASTM C 140-39; ASA A84.1-1942
Concrete Masonry Units for Construction of Catch Basins and Manholes, Specifications for ASTM C 139-39; ASA A73.1-1942
Hollow Non-Load-Bearing Concrete Masonry Units, Specifications for ASTM C 129-39; ASA A80.1-1942
Mild Steel Plates, Specifications for ASTM A 10-39; ASA G20-1939
Sand-Lime Building Brick, Specifications for ASTM C 73-39; ASA A78.1-1942
Steel for Bridges and Buildings, Specifications for ASTM A 7-42; ASA G24-1942
Structural Clay Floor Tile, Specifications for ASTM C 57-39; ASA A77.1-1942
Structural Clay Tile, Methods of Sampling and Testing ASTM C 112-36; ASA A83.1-1942

American Standards Reaffirmed (Continued)—

Structural Rivet Steel, Specifications for ASTM A 141-39; ASA G21-1939
Structural Silicon Steel, Specifications for ASTM A 94-39; ASA G41.1-1942
Sponsor: American Society for Testing Materials

Standards Being Considered by ASA for Approval

Dimensions of Aerial Film Spools

5¼ x 2⅛ Z38.1.32
5½ x 2⅝ Z38.1.33
7 x 1 13/16 Z38.1.34
7 x 2⅜ Z38.1.36
7 x 4⅝ Z38.1.37
9½ x 4 Z38.1.38
9½ x 5 3/16 Z38.1.39
9½ x 6⅝ Z38.1.40

Specifications for Films for Permanent Records, Z38.3.2
Specifications for Slide-Film Projectors, Z38.7.15
Practice for Conversion of Weights and Measures for Photographic Use, Z38.8.2
Sponsor: Optical Society of America

Withdrawal of Approval Requested

Standards for Electric Arc Welding Apparatus C52.1-1933
Standards for Resistance Welding Apparatus C52.2-1933
Sponsor: American Welding Society

American War Standards

American War Standards Approved Since Our February Issue

Protective Occupational (Safety) Clothing, L18
  Flame-Resistant Fabric
    Aprons (Bib Type) L18.21-1945
    Leggings (Knee and Hip Length) L18.22-1945
    Coats L18.23-1945
    Pants L18.24-1945
    Coveralls L18.25-1945
  Flame-Resistant Fabric Spats L18.26-1945
  Leather Spats L18.27-1945
  Asbestos Spats L18.28-1945
Photography and Cinematography, Z52
  35-Mm Slide Film for Use in Still Picture Projectors, Z52.29-1945
  Sizes of Projection Screens, Z52.41-1945
  Whiteness of Projection Screens (Semi-Diffusing Reflecting Surface), Z52.45-1945
  Resolving Power of Slide Film Projector Lenses, Z52.55-1945
  Method of Determining Noise Level of Motion Picture Cameras, Z52.60-1945

War Standards Under Way

Cylindrical Fits, B4.1
Linemen's Rubber Protective Equipment, J16

War Standards Under Way (Continued)—

Machine Tool Electrical Standards (Revision of C74-1942)
Photography and Cinematography, Z52
  Specification for Class II Service Model 16-Mm Sound Motion Picture Projection Equipment, Z52.13
  Specification for Photographic Contact Printer, Z52.18
  Specification for Photographic Enlarger, Z52.23
  Specification for Projectors of Slides and Slide Film, Z52.28
  Specification for Leaders, Cues and Trailers for 16-Mm Sound Motion Picture Release Prints Processed from Original 16-Mm Material, Z52.31
  Specification for Warble Test Film Used for Testing 16-Mm Sound Motion Picture Equipment, Z52.32
  Specification for 16-Mm Motion Picture Film Projection Reels for Containers, Z52.33
  Specification for 16-Mm Motion Picture Film Projection Reels and Containers, Z52.33
  Dimensions for Reel Spindles for 16-Mm Sound Motion Picture Equipment, Z52.34
  Method of Determining Printer Loss in 16-Mm Sound Motion Picture Prints, Z52.40
  Sound Transmission of Perforated Projection Screens, Z52.44
  Brightness Characteristics of Photographic Projection Screens (Semi-Diffuse Type), Z52.46

Photography and Cinematography—(Continued)
Specification for Photographing Aperture of 16-Mm Sound Motion Picture Cameras, Z52.47
Specification for Photographing Aperture of 16-Mm Sound Motion Picture Cameras, Z52.48
Specification for Field of View of 16-Mm Motion Picture Camera View Finders Having Parallax Adjustment, Z52.49
Specifications for Registration Distance for Mounting Dimensions of 16-Mm Motion Picture Camera Lenses, Z52.50
Distance Calibration of 16-Mm Motion Picture Camera Lenses, Z52.51
Mounting Dimensions for 16-Mm Camera and Recorder Film Magazines, Z52.52
Location of Synchronization Marks on 35-Mm Motion Picture Release Negatives, Z52.53
Location of Synchronization Marks on 16-Mm Motion Picture Release Negatives, Z52.54
Specification for Portable Photographic Projection Screens (Spring-Roller-Mounted), Z52.56
Specification for Photographic Projection Screens (Springless-Roller-Mounted), Z52.57
Specification for Photographic Projection Screens (Folding for Portable Frame Mounting) Z52.58
Specification for Photographic Projection Screens (Auditorium Frame Mounting) Z52.59

Photography and Cinematography—(Continued)
Photographic Filter Terminology and Nomenclature Z52.61
Markings for Between-the-Lens Shutters Z52.62
Method of Determining Effective Exposure Time of Between-the-Lens Shutters Used in Still Cameras Z52.63
Markings for Focal Plane Shutters Z52.64
Method of Determining Exposure Time of Focal-Plane Shutters Z52.65
Protective Occupational (Safety) Clothing L18
Gloves to Provide Protection against Chemicals
Resistance Welding Equipment C52
Resistance Welding Electrodes and Electrode Holders C52.3
Controls for Resistance Welding Machines C52.4
Specifications for Resistance Welding Machines C52.5
Screw Threads B1
High-Duty Studs in Light Alloys
Instrument Threads
Stub Acme Threads
Unification of Screw Threads

New War Project Initiated

Drawings and Drafting Room Practice Z14

News About ASA Projects

Accident Statistics, Z16—

Sponsors: International Association of Industrial Accident Boards and Commissions: National Council on Compensation Insurance; National Safety Council.

Suggestions for revision of the American Standard for Compiling Industrial Injury Rates, Z16.1-1937, were discussed at a meeting of the committee February 15. A draft prepared as a result of the discussion is now out to letter ballot of the committee.

Building Code Requirements for Grandstands, Tents, and Places of Outdoor Assembly, Z20.2—

Sponsors: Building Officials Conference of America; National Fire Protection Association.

The first draft of a standard has been prepared and is being circulated to the committee for criticism.

Coordination of Dimensions of Building Materials and Equipment, A62—

Sponsors: Producers' Council; American Institute of Architects.

The Executive Committee of the ASA Committee on Coordination of Dimensions of Building Materials and Equipment met on January 12, and gave final review to two proposed standards. The drafts of these proposed standards (Basis for the Coordination of Dimensions of Building Materials and Equipment, A62.1, and Basis for the Coordination of Masonry, A62.2) had been circulated in the fall of 1943 for a period of trial use and study. Comments and suggested changes were given careful consideration by the Executive Committee. Revised drafts will be submitted soon to the full membership of the sectional committee for action by letter ballot.

Protective Occupational (Safety) Clothing, L18—

A subgroup on Corrosive-Resistant Gloves held a meeting March 7 to consider the possibility of developing methods of test for gloves used for protection against acids, caustics, coolants, and solvents. The subgroup may also include methods of test for rubber gloves which are used as protection in abrasive blasting (both sand blasting and metal-shot blasting). The subgroup is now working on suggestions as a result of the meeting and hopes that it will soon be able to submit recommendations to the subcommittee on hand protection.

Safety Code for Bakery Equipment, Z50—

Sponsor: American Society of Bakery Engineers.

At its meeting February 13, this committee received reports from subcommittees, made suggestions, and sent the reports

Safety Code for Bakery Equipment—(Continued)
back to the subcommittees for further work. The committee hopes to have final reports from all subcommittees by September 15 as the basis for the preparation of a draft standard.

Safety Code for the Industrial Use of X-Rays, Z54—

At the meeting of this ASA War Committee March 1, a draft standard was prepared which has now been sent to letter ballot of the committee.

Transformers, C57—

Sponsor: Electrical Standards Committee.

In the report of electrical projects published in the January issue of INDUSTRIAL STANDARDIZATION, page 15, it was incorrectly stated that no revision in the American Standards on Transformers approved in 1942 is planned. At present, Sectional Committee C57 is actively engaged in a complete revision of the American Standards for Transformers, Regulators, and Reactors, C57.1-1942; Test Code for Transformers, C57.2-1942; and Guides for Operation of Transformers and Regulators, C57.3-1942.

Dough-Mixing Machine

Subcommittees are working on reports for consideration by the committee on Safety Code for Bakery Equipment

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